MGC Manager

User's Guide Volume II

Version 7.5

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Polycom Inc., declares that the MGC-50/MGC-100 with NET-8 card is in conformity with the following relevant harmonized standards:
EN 60950: 1992 Including Amendments 1,2,3 & 4
EN 55022: 1994
EN 50082: 1997

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Advanced Conference Settings

In addition to the basic conference settings, you can accommodate special requests by defining advanced parameters. The advanced settings include:

- *Dual Stream modes* - Allows the deployment of two video streams in a conference.
- *LSD* (Low Speed Data) - *FECC* (Far End Camera Control) - the MCU supports the participant's control of a far-end camera during an On Going Conference.
- *4CIF Resolution* - Allows the selection of High quality 4CIF video resolution in Continuous Presence conferences running at line rates of 512 Kbps or higher.
- *Software Continuous Presence* - Allows Continuous Presence conferences to be set up without using video card resources.
- *Encryption* - Enhances data security at conference and participant levels.
- *Auto Extend Conference Duration* - Allows the conference time to be automatically extended without operator intervention.
- *Simple Cascading* - Allows running separate conferences as one very large conference, or conferences that run on different MCUs to run as one conference.
- *DTMF Enabled Cascading* - Enables use of DTMF codes in Cascaded conferences.
- *Enhanced Cascading* - Enables setup of links in Cascaded conferences using aliases.
- *Large Video Switching Conferences* - In systems that do not include Audio+ cards, allows configuring of standard Audio cards to include 30 participants in a single Video Switching conference.
- *Auto Rate Detection* - Allows automatic detection of the line rate and aggregation mode of incoming ISDN calls, without prior definition.

These conference settings are described in this chapter. In addition, you can define H.243 Cascading conferences as described in Chapter 5 and Greet and Guide conferences, as described in Chapter 4.

Dual Stream Modes

With Dual Streams, an endpoint sends two video streams: video and data. Video streams are handled differently by different endpoints. The MGC Manager provides the following video streaming options for different types of endpoints:

- People+Content (H.239 People+Content0 - for most types of Polycom endpoints
- People and Content (V0) - for PictureTel endpoints
- Duo Video - for Tandberg endpoints
- Polycom Visual Concert PC/FX - for Polycom ViewStation PC/FX endpoints

H.239 / People+Content

H.239 and People+Content are very similar in function, but differ in the type of signalling used for each protocol. People+Content is the Polycom proprietary protocol, while H.239 is the industry standard. When an endpoint can support both H.239 and People+Content protocols, H.239 is selected as the preferred communications protocol. This feature provides the endpoint with the ability to send two alternating video streams, people and content. The *People* stream is based on the principle, that in the conference “I see you and you see me”, while the *Content* stream implies “we both see the same content”, that is we use the same data stream.

The minimum line rate required for an H.239/People+Content conference is 128 Kbps. In an On Going Conference, when the Content channel opens, the required bit rate is taken from the video channel bit rate, and may affect the quality of the transmitted video. The bit rate allocated to the Content channel depends on the conference type and the conference line rate, where the minimum is 64 Kbps and it increases in multiples of 64 Kbps. Bit rate allocation is dynamic and when the Content channel closes, the video bit rate is restored to its maximum.

H.239/People+Content is available in cascaded conferences only in a Star Cascading topology, with Video Switching conferences. For more information about Star Cascading, see Chapter 5, "Star Cascading H.243" on page 5-2.

H.239 and People+Content are supported with the following features:

- Highest Common
- H.264
- 4CIF
- Encryption
- FECC (H.320 and H.323)

H.239/People+Content is not supported in:

- Software CP and Quad View conferences
- H.320 Cascading conferences
- MIH Cascading conferences
- Simple Cascading conferences
- T.120 conferences
- Double Gateway sessions

- The H.239 / People+Content mode is not supported in Entry Queues.
- H.239 is not supported in Gateway calls in version 6.x and earlier. However, you can set up a point to point call with H.239 in these versions by setting up a meeting room with H.239 enabled and both the minimum and maximum number of participants set to 2.

To enable the H.239 standard at the MCU level:

The H.239 standard is enabled/disabled in the "system.cfg" file, in the PEOPLE PLUS CONTENT section. By default, the H.239 flag is set to YES.

- Set the H.239 flag to NO to disable H.239.

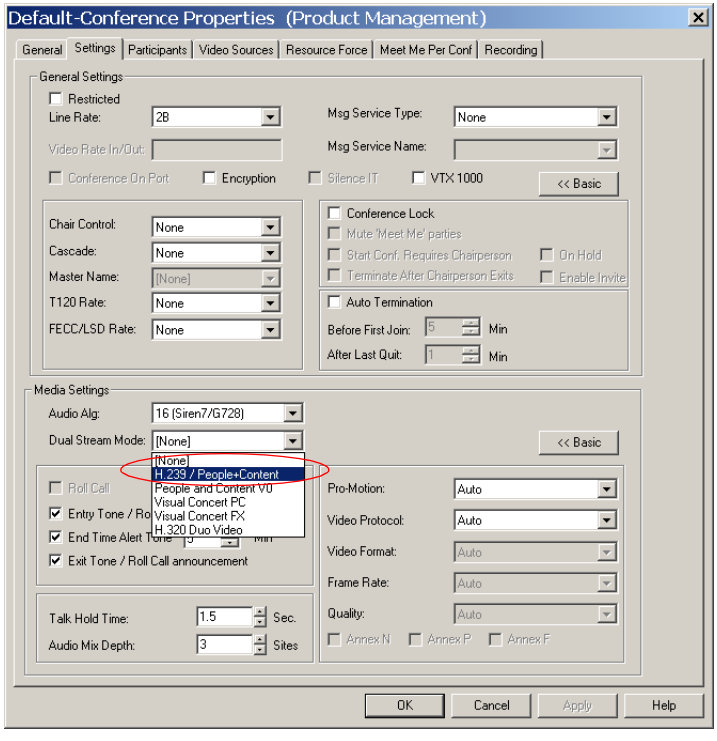
  When disabled, the MCU supports only the People+Content option.

  When enabled, you can set the *H.239/People+Content* option at the conference level, see "To enable the H.329/People+Content option at the conference level:" on page 1-4.
- To enable the H.239 and People+Content option in Gateway Sessions, set the flag GW_EPC_H239=YES (default).

To enable the H.329/People+Content option at the conference level:

The H.239 standard is enabled in the *Conference Properties - Settings* dialog box.

- In the *Media Settings* pane, in the *Dual Stream Mode* list, select **H.239/ People+Content**.



When selecting this option, the Chair Control, Cascade and T.120 options are disabled, unless you are defining an IP Only Video Switching conference.

- If you use older PictureTel endpoints, select People and Content V0 in the *Conference Properties - Settings* dialog box, not H.239 / People+Content.
- In conferences where there are older and newer endpoints, use People and Content V0 for the conference and set the newer endpoints to use H.239 / People+Content.

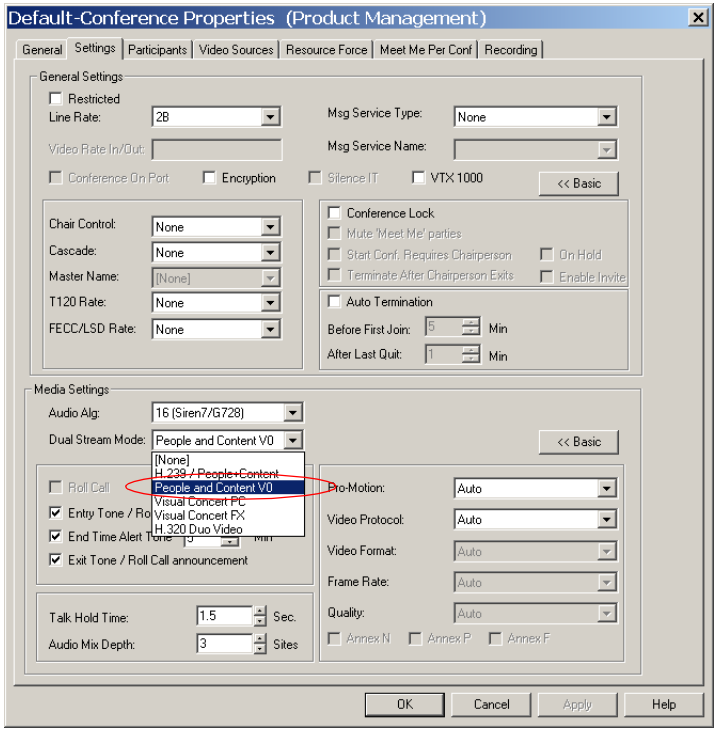
People and Content V0

People and Content V0 is a Polycom proprietary technology used for connecting older PictureTel endpoints and only in Video Switching conferences. Select this option only when using older endpoints.

To select People and Content V0 in a Video Switching conference:

People and Content V0 is selected in the *Conference Properties – Settings* dialog box.

- In the *Media Settings* pane, in the *Dual Stream Mode* list, select **People and Content V0**.



- Complete the conference definition as for any standard Video Switching conference and click **OK**.

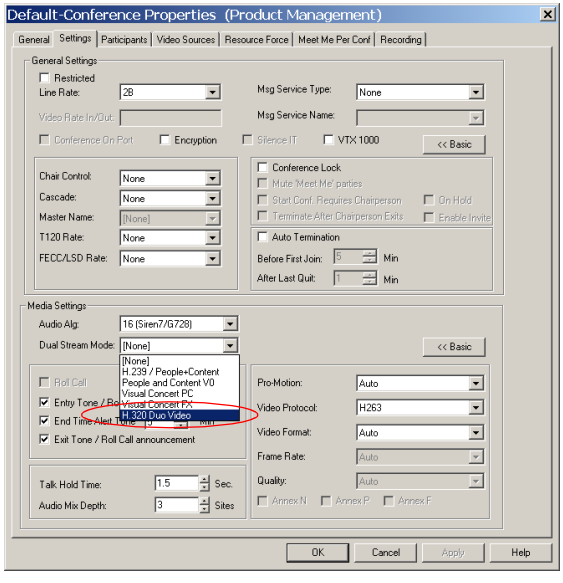
DuoVideo

A Tandberg DuoVideo capable endpoint accommodates two calls, one for the participant conference and the second for a demo/presentation on a second monitor. The DuoVideo feature therefore requires two simultaneous ISDN (H.320, dial-in) calls, to operate two parallel conferences on the MCU. These two conferences are independent and unrelated to each other; the system does does not indicate otherwise. The first conference operates as a standard conference in a Video Switching, Transcoding or Continuous Presence mode. The second conference is also standard but has distinct attributes: it is a Video Switching or a Transcoding conference that operates in a DuoVideo mode.

Assigning a speaker for the first conference has no influence on who is to be the speaker of the second, DuoVideo conference. The speaker of the second conference is designated by the operator and “forced”. This speaker is the presenter of the lecture/presentation.

To define a Duo Video (Presentation) in a Video Switching conference:

Duo Video is selected in the *Conference Properties – Settings* dialog box.



1. In the *Dual Stream Mode* list, select:
   - **H.320 Duo Video** if the conference is run in an ISDN environment
   - **H.323 Duo Video** if the conference is run in an IP Only environment.

   The annexes are automatically selected by the system. To view or configure additional *Media Settings* information, click the **Advanced** button.
2. Click the **Participants** tab.
   The *Conference Properties - Participants* dialog box opens.
3. Define the participants to be used for the content presentation.
4. If you want to force the participant to the video window (one to be seen by all), click the **Video Sources** tab.
   The *Conference Properties - Video sources* dialog box opens.
5. In the *Video Layout* window, select the participant name to force this endpoint as the presenter. For video Forcing details, see the MGC Manager User's Guide, Volume I, Chapter 6, "Video Forcing".
6. Complete the conference definition and click **OK** to apply the settings.

Polycom Visual Concert PC

Polycom's Visual Concert PC is an endpoint feature that enables the sending of two alternating video streams: video and data. Typically, the video stream is transmitted in the standard H.263 resolution in high frame rate while the data video stream is transmitted in a higher resolution but lower frame rate. The Visual Concert PC option is available with Polycom's ViewStation endpoints.

This option is available only in Video Switching conferences for both H.320 and H.323 participants.

To activate this option, the Polycom Visual Concert PC application must be installed on the same computer deployed as the data source. This computer is connected via the LAN to the ViewStation endpoint that will broadcast the data to all conference participants. The data stream can be received by both ViewStation and ViewStation FX endpoints.

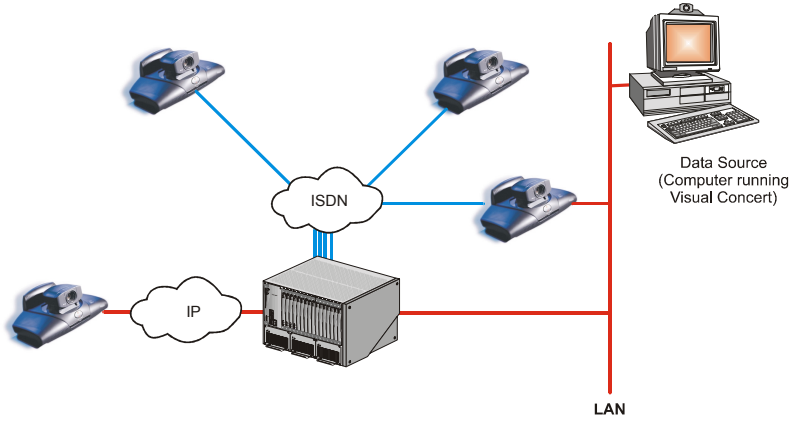
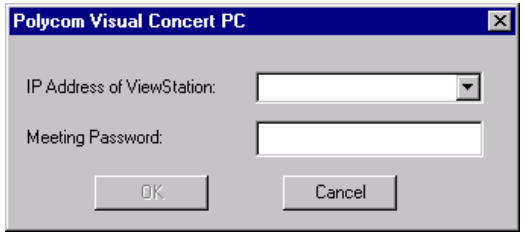


Figure 1-1: Visual Concert PC Configuration Scheme

To be able to broadcast data, you must first configure the link between the computer deployed as the data source and the ViewStation PC that will broadcast the data stream to all other endpoints.

To activate the Visual Concert PC application:

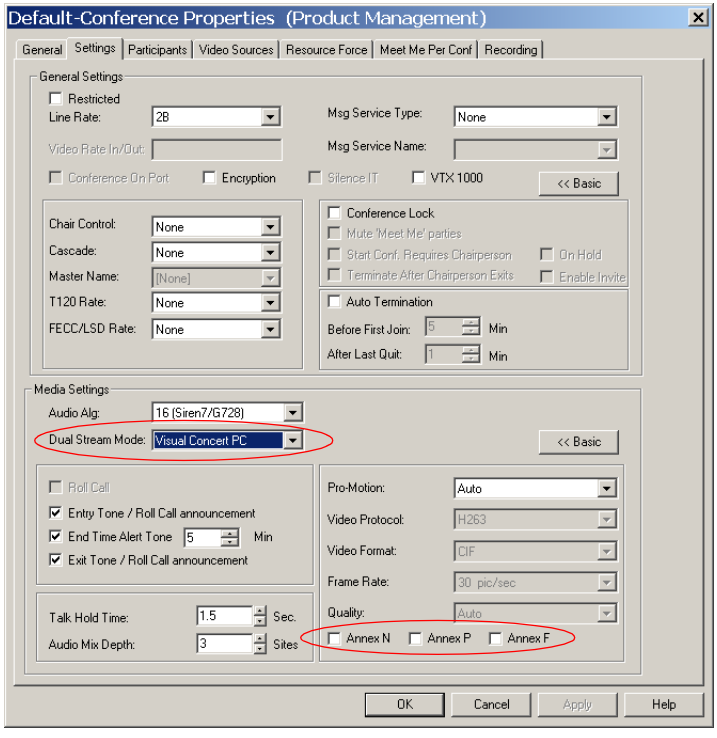
1. Run the *Visual Concert PC* application.
   The *Polycom Visual Concert PC* dialog box opens.



2. In the *IP Address of ViewStation* box, enter the IP address of the ViewStation to broadcast the data stream to all other endpoints.
3. In the *Meeting Password* box, enter the password defined for the endpoint.
4. Click **OK**.
   The data stream can now be broadcasted.

To select the Visual Concert PC dual stream mode for a video conference:

1. In the *Conference Properties - General* dialog box, define a standard *Video Switching* conference.
2. Click the **Settings** tab.
   The *Conference Properties – Settings* dialog box opens.



3. In the *Dual Stream Mode* list, click **Visual Concert PC**.
   When you select *Visual Concert PC,* the *Annex* check boxes *N, P* and *F* are enabled in the *Media Settings- Advanced* pane.
4. Optional. To select the Annexes:
   — If only the *Basic* parameters are displayed, click the **Advanced** button.
   — Select the type of **Annex** to use with Visual Concert PC.
5. Complete the conference definition and click **OK**.

- Annexes N, P and F are optional and are additions to the Video Format when using the H.263 video protocol, improving the video quality. For Annex definitions, see "Defining Advanced Media Settings" in the MGC Manager User's Guide Volume 1, Chapter 4.
- Polycom ViewStation FX endpoints can receive slides form the ViewStation PC but cannot broadcast slides to ViewStation PC endpoints.
- In the MGC Manager you define the properties of the video conference. The properties of the contents transmission are defined internally and cannot be modified by the MGC Manager operator.

Polycom Visual Concert FX

The Visual Concert FX (VCFX) feature enables you to view simultaneous live video and content (data) presentations using high resolution graphics. This feature is available with ViewStation FX endpoints. VCFX transmits the video stream in H.263 format and in a high frame rate (CIF 30 FPS). The data video stream is transmitted at a higher resolution SXGA (1280 x 1024 pixels) and at a lower frame rate (CIF 15 FPS).

In a dual video conference with Visual Concert FX settings, presentations can be viewed if a Polycom Visual Concert FX box is connected between the ViewStation broadcasting the presentation and the PC used for the data source. When a single video monitor is used for the presentation, the monitor displays the content and broadcasts the video. When a ViewStation endpoint without SXGA capabilities enters the conference, the endpoint connects as Secondary (audio only).

- ViewStation PC endpoints connecting to a conference that was set to Polycom ViewStation FX, connect as *Secondary* (audio only).
- In the MGC Manager, you define the properties of the video conference. The properties of the contents transmission are defined internally and cannot be modified by the MGC Manager operator.
- Annexes N, P and F are optional and are additions to the Video Format when using the H.263 video protocol, improving the video quality. For Annex definitions, see the MGC Manager User's Guide Volume 1, Chapter 4, "Defining Advanced Media Settings".

In a dual video conference with Visual Concert PC settings, the ViewStation FX endpoints use a resolution of 4CIF (704 x 480 NTSC, 704 x 576 PAL).

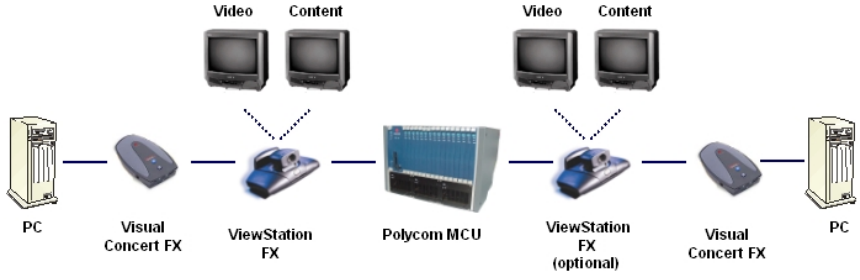
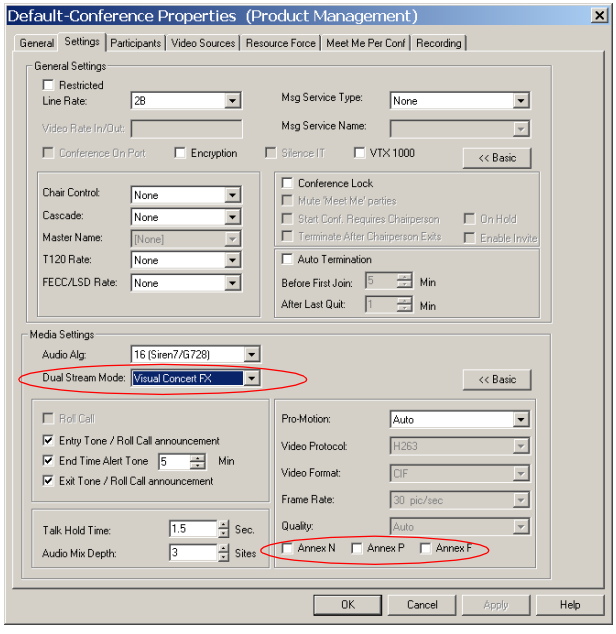


Figure 1-2: VCFX Configuration Scheme

To enable the Visual Concert FX dual stream mode for a video conference:

1. In the *Conference Properties - General* dialog box, define the parameters of a standard Video Switching conference.
2. Click the **Settings** tab.

The *Conference Properties – Settings* dialog box opens.



3. In the *Dual Stream Mode* list, click **Visual Concert FX**.

   When you select *Visual Concert FX,* the **Annex** check boxes **N**, **P** and **F** are enabled in the *Media Settings- Advanced* pane.

4. Optional. To select the Annexes:

   — If only the *Basic* parameters are displayed, click the **Advanced** button.

   — Select the type of **Annex** to use with Visual Concert FX.

5. Complete the conference definition and click **OK.**

Far End Camera Control (FECC) and Low Speed Data (LSD)

Certain video cameras and their software applications allow conference participants to control far-end (remote) cameras. The Far End Camera Control protocol H.281 is used to control the video camera remotely with ISDN and IP endpoints. With H.323 endpoints, Annex Q or RV mode (Radvision proprietary method) is used for H.281 commands/messages requesting control over the far end camera from the MCU.

Control of the remote endpoints is accomplished by the means of data tokens. In a conference with IP and ISDN participants, the MCU simulates the use of data tokens with H.323 endpoints to work in a similar way as with ISDN endpoints. To obtain control over a far-end camera (FECC), a participant requests the data token from the MCU by clicking one of the arrow keys or one of the zoom keys in the endpoint's software application. Upon this request, the MCU opens the LSD (Low Speed Data) channel of all the conference participants and allocates the data token to the requesting participant. This allows the participant to transfer commands from one endpoint to the camera of another endpoint. When the data token is released by the endpoint holding it, the token can be taken by another endpoint (IP or ISDN) without the MCU closing the data channel or stream. If the token is not released by the endpoint, the MGC Manager operator can also withdraw the data token from the endpoint.

FECC/LSD Guidelines:

- The system allocates the LSD channel from the video channel bandwidth, resulting in a lower line rate for the conference.
- In Video Switching conferences in which FECC/LSD is enabled, ISDN endpoints that do not support LSD and cannot open the LSD channel connect as *Secondary* (Audio only) while IP endpoints remain connected at their initial line rate.
- In Continuous Presence and Transcoding conferences, ISDN endpoints that do not support LSD remain connected at their initial line rate.
- In encrypted conferences with ISDN and IP participants, the FECC channel rate is always 4.8 Kbps.
- In H.320, Master/Slave cascading conferences, only the *FECC/LSD 6.4* (fixed rate) option is available. In such a conference, when a request for

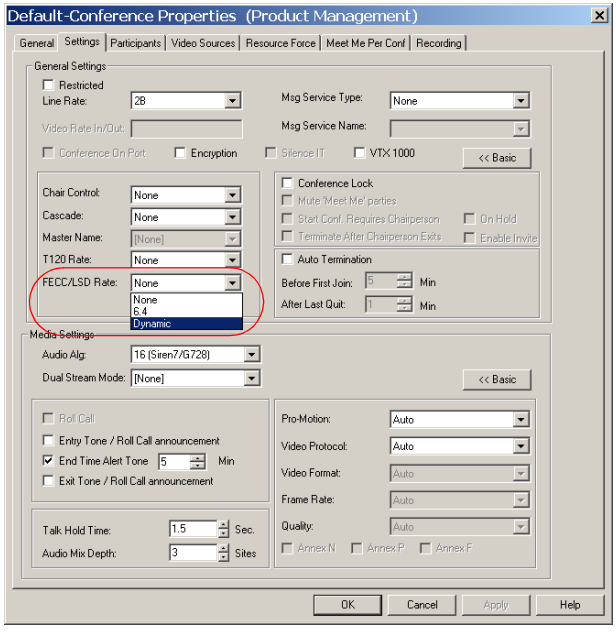
the data token is invoked by an operator connected to the slave MCU, the slave MCU checks if another participant possesses the data token. If yes, the request is rejected. If no, the request is transferred to the Master MCU, which opens the FECC/LSD channel of all the participants in the Master conference.

- When the *FECC/LSD* option is enabled, the T.120 Rate and Chair Control options are disabled.
- FECC is available only in H.320 Master/Slave Cascading conferences but not with simple cascading.
- FECC is not available in Double Gateway sessions.

To enable FECC for a conference:

The *FECC/LSD* parameters must be set during the reservation stage and cannot be modified once the conference has started.

1. In the *Conference Properties – Settings* dialog box, if the *General Settings* pane shows only the *Basic* settings, click the **Advanced** button to display the advanced settings options.



2. In the *FECC/LSD Rate* box, select one of the following options:

Table 1-1: LSD/FECC Rate Options

LSD/FECC Rate	**Description**
None	Default. When The FECC/LSD option is disabled, any request for far-end camera control during the conference is rejected.
Dynamic	The On Going Conference starts with the FECC/LSD channel closed. Upon request from a participant, the MCU opens the FECC/LSD channel and assigns the data token to that participant. The FECC/LSD channel remains open throughout the conference. In Video Switching conferences, when opening the FECC/LSD channel, endpoints that do not support FECC/LSD become connected as *Secondary* (audio only). This is the only option available in encrypted conferences. In encrypted conferences with ISDN participants, when starting the conference, the MCU opens the FECC/LSD channel at a fixed rate of 4.8 Kbps (LSD-4800) and keeps the channel open at this rate throughout the conference. **Note:** This option is not available for *IP Only* video conferences.
6.4	The fixed rate. MCU opens the FECC/LSD data channel (at a fixed rate of LSD-6400) when starting the conference, and keeps the channel open throughout the conference. Once the channel is open, the behavior is the same as in the Dynamic mode. **Note:** This option is not available for encrypted conferences.

- If the FECC/LSD-4800 rate is enabled in the "system.cfg", (flag LSD4800=YES, section CHAIR/FECC) and the FECC/*LSD* field is set to **Dynamic**, when an endpoint requests the data token at 4800, the FECC/LSD rate of the entire conference is set to 4800. (The LSD4800 flag is by default set to YES, and must be added to the "system.cfg" file before its value can be changed.)
- The FECC/LSD-4800 rate must be enabled in the "system.cfg" file to enable encrypted participants to join an FECC-enabled conference.
- If the FECC/*LSD* field is set to **6.4**, when an endpoint requests the data token at 4800, the request is rejected by the MCU.

In a Cascading conference, only the *FECC/LSD 6.4* (fixed rate) option is available. In this type of conference, when a participant connected to the slave MCU invokes a request for the data token, the slave MCU checks if another participant possesses the data token. If yes, the request is rejected. If no, the request is transferred to the master MCU, which opens the FECC/LSD channel of all the conference participants.

For more details on scheduling Cascading conferences, see "Cascading Conferences" on page 1-43, or Chapter 5, "H.243 Cascading Conferences" on page 5-1.

Viewing the FECC/LSD Conference Properties

Once the conference has started and it is set to **FECC/LSD 6.4**, the FECC/LSD channel automatically opens. If the conference is set to **Dynamic**, the FECC/LSD channel opens only if and when a participant requests the Far End Camera Control (by clicking on the pan, tilt and zoom buttons in the camera's application). As long as the participant keeps using the pan, tilt and zoom buttons he retains the data token holder. Once these buttons are no longer used, the data token is returned to the MCU and can be passed to another participant while the LSD channel remains open. If the token is not returned to the MCU when the participant is no longer controlling the far-end camera, the token can be withdrawn by the MCU.

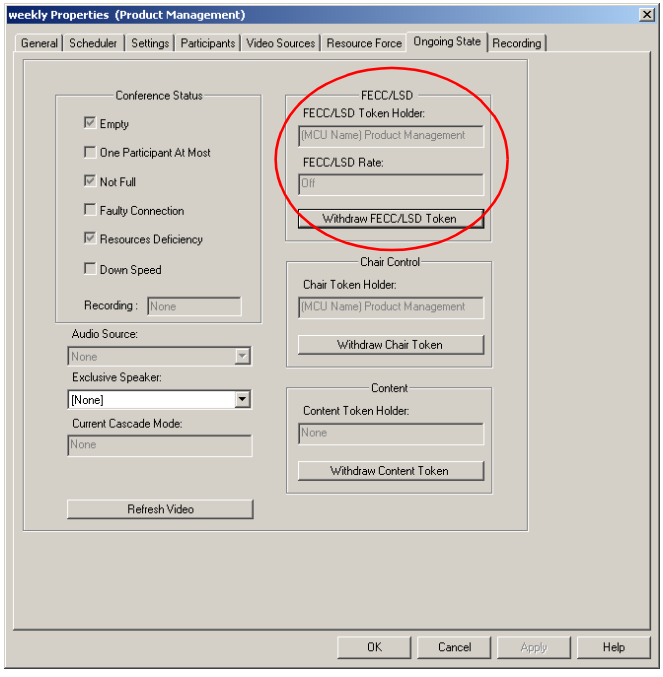
When a participant requests the data token while another participant possesses it, the request is rejected by the MCU. When a participant is moved from an FECC/ LSD enabled conference to an FECC/LSD disabled conference, the MCU automatically closes the FECC/LSD channel. When a participant is moved from an FECC/LSD disabled conference to an FECC/ LSD enabled conference, the MCU automatically opens the FECC/LSD channel for that participant.

To view FECC/LSD conference properties and control the data token:

The FECC/LSD token holder can control a video camera at a remote site. During an On Going Conference when the FECC/LSD option is enabled, you can view the name of the participant holding the FECC/LSD token. You can withdraw the FECC/LSD token from the participant (and return it to the MCU) whenever required. This is usually done when problems occur while releasing the data token from one participant and transferring it to another (for example, when you want to transfer the control over the remote sites to another participant).

1. In the *Status* pane, the *Browser* pane or the *Monitor* pane, right-click the appropriate *On Going Conference* icon, and then click **Properties**. The *Conference Properties - General* dialog box opens.

2. Click the **Ongoing State** tab to view the conference status.
The *Conference Properties – Ongoing State* dialog box opens.



The *FECC/LSD* pane shows the current FECC/LSD information for this conference.

Table 1-2: FECC/LSD Options for an On Going Conference

Field/Option	Description
FECC/LSD Token Holder	The name of the participant currently holding the FECC/LSD token. *None* indicates that the FECC/LSD channel is closed.

Table 1-2: FECC/LSD Options for an On Going Conference (Continued)

Field/Option	Description
FECC/LSD Rate	The current data transmission rate. • **Off** - Indicates that the LSD/FECC channel is closed. • **6.4** - Indicates that the LSD/FECC channel is open and the rate is 6.4 Kbps. • **4.8** - Indicates the rate of the LSD/FECC channel that is open in an encrypted conference. **Note:** When the LSD/FECC option is set to *Dynamic,* the FECC/LSD Rate field displays: Off or the rate.
Withdraw FECC/ LSD Token	Click this button to withdraw the LSD token from the current holder and return it to the MCU.

3. Click the **Withdraw FECC/LSD Token** button to withdraw the FECC/ LSD token from the current endpoint/holder and release it to the MCU for assignment to other endpoints.
4. Click **OK**.

Using 4CIF Video Resolution

High Quality 4CIF video resolution is available in Continuous Presence conferences running at 512 Kbps or higher line rates. In this mode, the endpoints transmit CIF (or QCIF) and receive 4CIF images from the MCU. In full screen layout (1x1), endpoints that can send 4CIF images will send 4CIF to the MCU when they are the speakers.

In Continuous Presence conferences, you can select the quality of the display depending on the video transmission:

- **Sharpness** - Optimized for details. The video picture does not change frequently, but it includes details that you want to display in higher resolution. For example, when displaying still images, presentations, or capturing people.
- **Motion** - Optimized for motion. The video pictures change frequently and display movement, for example, a sporting event where the camera is moved around, people moving around, etc.

4CIF Guidelines

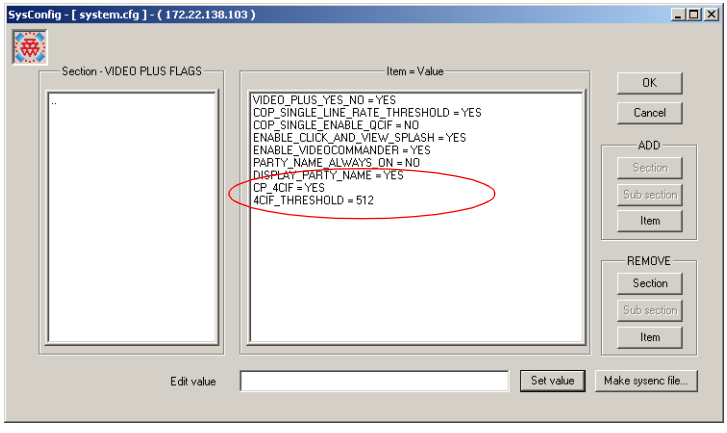
- 4CIF is enabled with the H.263 Video Protocol only.
- The Video+ card is required.
- 4CIF is available in Continuous Presence *Classic* and *Quad Views* modes.
- 4CIF is transmitted from the MCU to the endpoints when all the following conditions are met:
  - 4CIF is enabled at the MCU level, in the "system.cfg" file.
  - The conference line rate is equal or higher than the 4CIF threshold set in the "system.cfg" file.
  - The endpoint can receive 4CIF.
  - The 4CIF *Quality* is set to *Sharpness*.
  - The layout is suitable for 4CIF, as follows:
    - Classic: 2x1, 1x2, 2x2, 3x3
    - Quad Views: 4x4
- 4CIF is available in Conference on Port (COP) conferences in both CP *Classic* and CP *Quad Vie*w modes. Depending on the conference line rate and video layout, the video output resolution is automatically set to 4CIF

or CIF resolution based on the endpoint's capabilities. If one of the endpoints in the conference cannot receive 4CIF, CIF is used instead. In *H.239/People+Content* conferences, the Content graphics is sent and received in the same resolution. In an *IP/ISDN Gateway session*, when both endpoints support 4CIF, the MCU declares 4CIF capabilities.

- 4CIF is available in cascading conferences. However, both conferences must have the same properties and require selection of the H.263 Video Protocol. The cascading link then "inherits" the properties of both conferences.
- Participants can be moved between conferences with different resolutions, from CIF to 4CIF, or 4CIF to CIF. The MCU automatically adjusts the resolution to match the new conference and/or participant settings.

4CIF Global Setting at the MCU Level

4CIF is enabled in the MCU in the "system.cfg" file, VIDEO PLUS FLAGS section.



- CP_4CIF=YES

  This flag enables or disables 4CIF at the MCU level. YES (default) enables 4CIF and NO disables it.

- 4CIF_THRESHOLD=512

  This flag defines the minimum conference line rate for transmitting 4CIF from the conference to the endpoints. 512 Kbps is the recommended threshold.

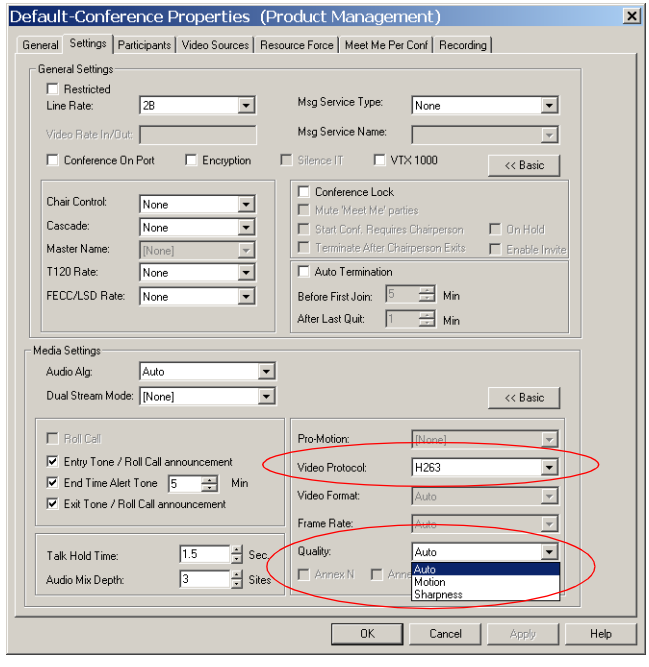
Enabling 4CIF in a Continuous Presence Conference

In CP conferences, when you select the H.263 video protocol, you can select the quality of video transmitted from the conference to the endpoints. The *Quality* option is used if the endpoints are capable of receiving 4CIF. The *Quality* option is available when the line rate is 512 Kbps or above.

To enable 4CIF Conferences:

4CIF and the *Quality* option are enabled in the *Conference Properties – Settings* dialog box.

1. If required, in the *Media Settings* area, click the **Advanced** button.
2. In the *Video Protocol* list, select **H.263**.
3. In the *Quality* list, select one of the following options:
   - **Auto** - Select this option to allow the system to select Motion or Sharpness based on the endpoint's capability.
   - **Motion** - Select this option to optimize the video display for motion.
   - **Sharpness** - Select this option to optimize the video display for details.

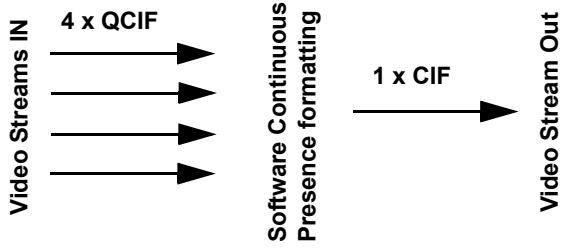


- When defining the properties of a Continuous Presence conference, if you set the conference to **Quad Views,** or if you select **Sharpness** in the *Quality* field, it is recommended to set the *Video Protocol* to **H.263** (and not *Auto* which is the default setting).
- Connecting endpoints using H.264 and H.263 4CIF in the same conference may reduce the conference video frame rate. In conferences where 4CIF is used by endpoints, it is recommended to set the *Video Protocol* to **H.263** and the *Quality* to **Sharpness**.

For more information on Advanced Media settings, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Advanced Media Settings".

Software Continuous Presence Settings

Software Continuous Presence (Software CP) is a software solution for IP Only conferences that resembles the Continuous Presence feature in terms of functionality, without using video card resources. Software CP combines four incoming QCIF streams with a fixed video bitrate from four different participants into one outgoing CIF stream.



In Software CP conferences, only two types of Video Layout formats are available for selection: 2x1 and 2x2. If the conference includes fewer than 5 participants, one of the layout windows is disabled.
Software CP video characteristics are:

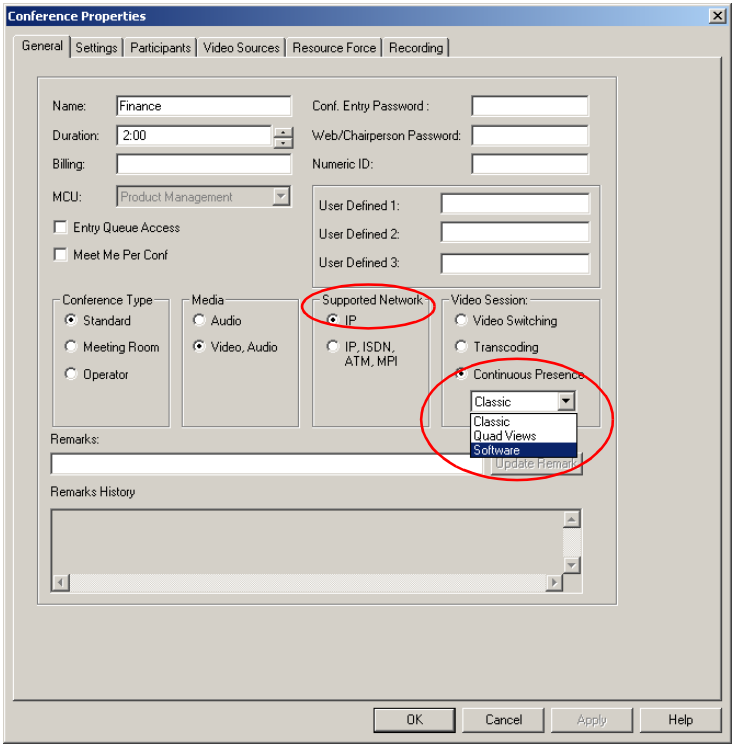
- Video Protocol is set to H.261
- CIF frame rate is selected at the conference level. Maximum CIF frame rate is 30 FPS, the highest possible frame rate for QCIF
- Video forcing can be performed in the same manner as in a standard Continuous Presence conference
- Participant video muting is available

Cascading between a Software CP conference and a Continuous Presence (CP) conference enables separate conferences to merge into a single large conference. This conference combination provides an added advantage by allowing a mix of IP participants in a Software CP conference and IP and ISDN participants in a CP conference. When using this conference format, identical Line Rates (defined in the *Conference Properties - Settings* dialog box) are required for both conferences.

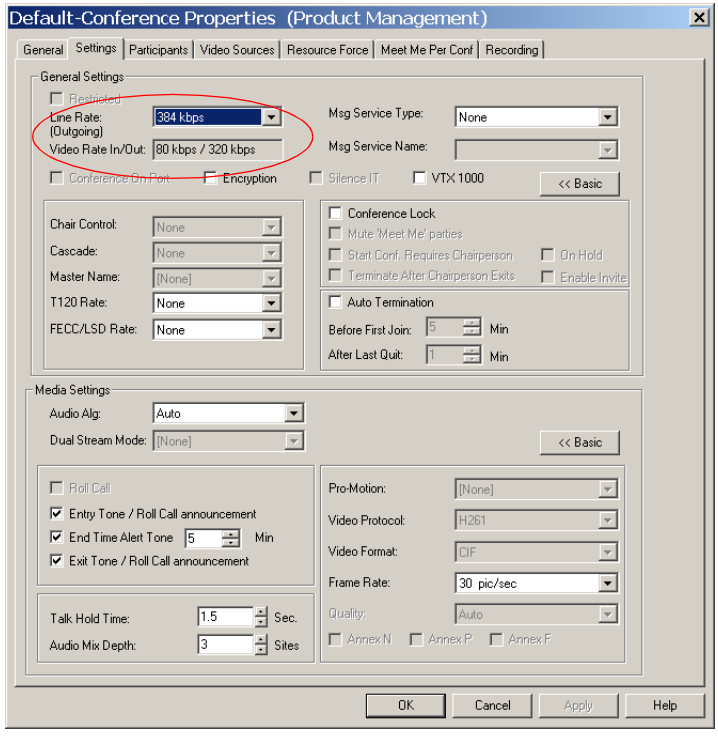
Defining Software CP Conferences

To define a new On Going Software CP conference:

1. In the MGC Manager main window, right-click the *On Going Conferences* icon, and then click **New Conference**.
   The *Conference Properties – General* dialog box opens, allowing you to define the general parameters of the conference.
2. Define the conference General parameters, such as name, duration, passwords (optional) and whether the conference is *Standard* or a *Meeting Room*. For a detailed description of conference setup, see the MGC Manager User's Guide, Volume I, Chapter 4.
3. In the *Supported Network* box, select **IP**.
4. In the *Video Session* box, click the **Continuous Presence** option, and then select **Software** from the list.



5. Click the **Settings** tab.
   The *Conference Properties – Settings* dialog box opens.

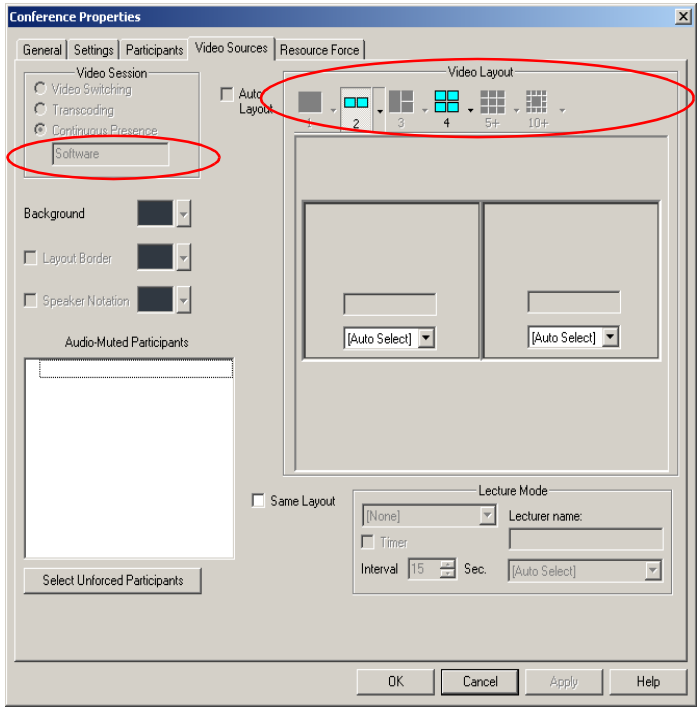


   The conference default *Line Rate* is set to 384 Kbps. This is the line rate of the conference broadcasted to the conference participants.

   The *Video Rate In/Out* box displays the video rate per incoming video channel (per participant), and the total video rate of the outgoing video channel broadcasted to all participants. The video rate per participant is calculated as follows:
   [Conference Bitrate - audio bandwidth]/4.
   For example, if the conference Video Bitrate is set to 384 Kbps, and the audio algorithm is set to 64 Kbps, the video rate per participant is:
   (384 - 64)/4=80 Kbps.

6. Select the *Line Rate* for the conference. To achieve better video quality (participant video rate is 384 Kbps), set the conference Line Rate to **T1** (384 x 4=1536 Kbps).

7. Define the other *Settings* parameters, as described in the MGC Manager User's Guide Vol. I, Chapter 4, "Defining the Settings Parameters".
8. Click the **Participants** tab to add participants to the conference or skip this step for dial-in participants.
9. Click the **Video Sources** tab.
   The *Conference Properties – Video Sources* dialog box opens.
10. In the *Video Layout* area, select the desired *Video Layout* in the *Video Source* dialog box. Only two Video Layouts are available for selection: **1x2** and **2x2**.



Lecture Mode is disabled in Software CP conferences.

11. Complete the On Going Conference definition and click **OK**.

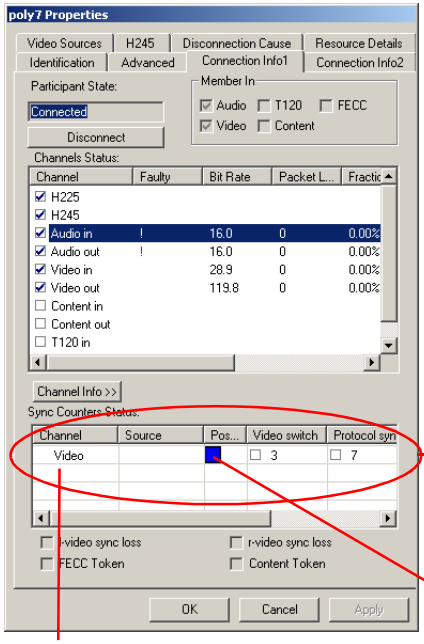
Monitoring Software CP Conference Participants

The properties of IP participants in an On Going Software CP conference can be view in the *Participant Properties - Connection Info1* tab.

For a detailed description of all connection parameters, see the MGC Manager User's Guide, Volume I, Chapter 5, Participant Level Monitoring".

To monitor Software CP conference participants:

1. In the *Browser* area, expand the list of participants in the On Going Conference list. Alternatively, right-click the *On Going Conferences* icon and select *Monitor*.
2. In the *Browser, Monitor* or *Status* area, right-click the participant icon, and then click **Properties**.
   The participant's *Properties* dialog box opens.
3. Click the **Connection Info1** tab.
   The *Participant Properties – Connection Info1* dialog box opens.



These columns provide information regarding the synchronization process with the endpoint. A checked box indicates problems in a stage of the synchronization process. The counter indicates the number of times the system tried to synchronize.

The window in the video layout where the participant is indicated by the blue box.

The names of the participants as viewed by this participant.

Media Encryption

Encryption is available at the conference and participant levels, based on AES 128 Media Encryption and DH 1024 Key Exchange standards.

Encryption is supported in all types of video conferences and IP Only—Audio Only conferences. Audio Only PSTN and ISDN participants cannot be encrypted.

ISDN and IP encrypted participants require more resources than non-encrypted participants.

Media Encryption guidelines:

- Endpoints must support both AES 128 encryption and DH 1024 key exchange standards which are compliant with H.233/H.234 (H.320) and H.235 (H.323) to encrypt and to join an encrypted conference.
- The encryption mode of the endpoints is not automatically recognized, therefore the encryption mode must be set for the conference or the participants (when defined).
- Encrypted conferences with ISDN participants require the installation of a MUX+ card.
- Encrypted conferences with IP participants require the installation of an IP+ card.
- Encryption is enabled at the MCU level, and can be applied at the conference level or participant level.
- Video Switching conferences can include only participants whose encryption setting is identical to the conference setting. An encrypted participant cannot join a non-encrypted conference and vice versa.
- MCU level encryption and system handling of encrypted and non-encrypted participants are enabled in the "system.cfg" file.
- Encryption is a purchasable option and is enabled accordingly.
- Conference level encryption must be set at reservation stage, that is during conference definition, and cannot be changed once the conference is running.
- In Cascaded conferences, the link between the cascaded conferences must be encrypted.

Enabling Encryption at the MCU Level

Encryption is enabled for the MCU in the "system.cfg" file.

When encryption is disabled at the MCU level, all encryption options are disabled for all conferences running on that MCU and encryption is not included in the capabilities set declared by the MCU.

To enable Encryption:

The Encryption flag that enables encryption at the MCU level must be obtained from Polycom support.

When enabled, encryption can be applied at the conference level and at the participant level. When it is disabled, all encryption options are disabled for all conferences running on that MCU and encryption is not included in the capabilities set declared by the MCU. Encryption should be enabled on the MCU only if the appropriate license was obtained from Polycom.

In addition, you can define whether access to conferences for encrypted and non-encrypted participants is done at the conference level or at the participant level, by setting the flag ALLOW_ENCRYPT_IN_PARTY_LEVEL in the ENCRYPTION section of the "system.cfg" file to YES or NO as follows:

Table 1-3: Participant Level Encryption According to Flag Settings

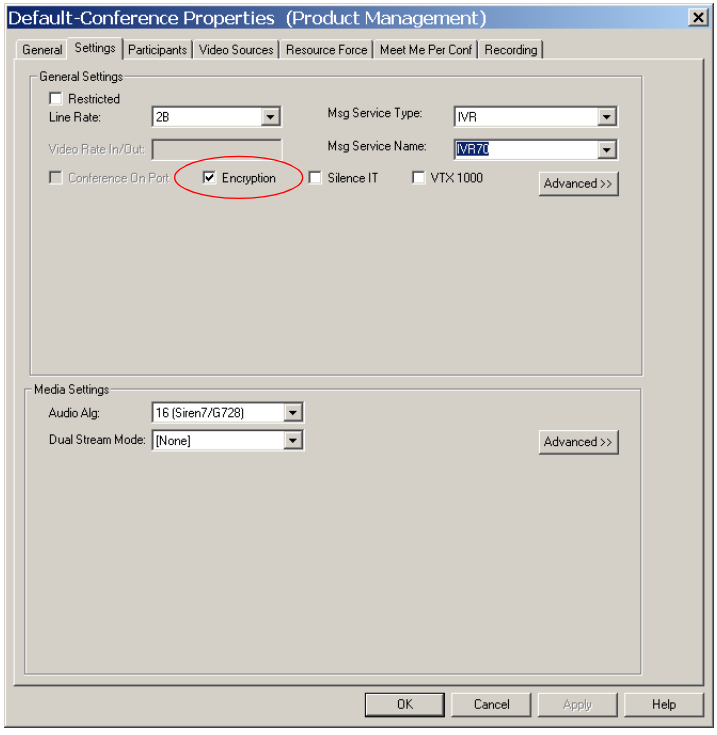
Participant Level Flag Settings	Encryption is Enabled for the Conference	Encryption is Disabled for the Conference
YES	Encryption is determined at the participant level, therefore encrypted and non-encrypted participants can join the conference.	Encryption is determined at the participant level, therefore encrypted and non-encrypted participants can join the conference.
NO	Encryption is determined at the conference level, therefore only encrypted participants can join the conference.	Encryption is determined at the conference level, therefore only non-encrypted participants can join the conference. Encrypted participants cannot be moved from an encrypted Entry Queue to this conference.

Enabling Encryption at the Conference Level

Encryption at the conference level is set during the conference definition and cannot be changed once the conference is running (On Going Conference).

To enable encryption at the conference level:

- In the *Conference Properties – Settings* dialog box, select the **Encryption** check box.



Enabling Encryption for Entry Queues

To be able to join a conference from an Entry Queue as an encrypted participant, encryption must be enabled for the Entry Queue. All non-encrypted participants connecting to an encrypted Entry Queue that is encryption-enabled, are disconnected from the MCU.

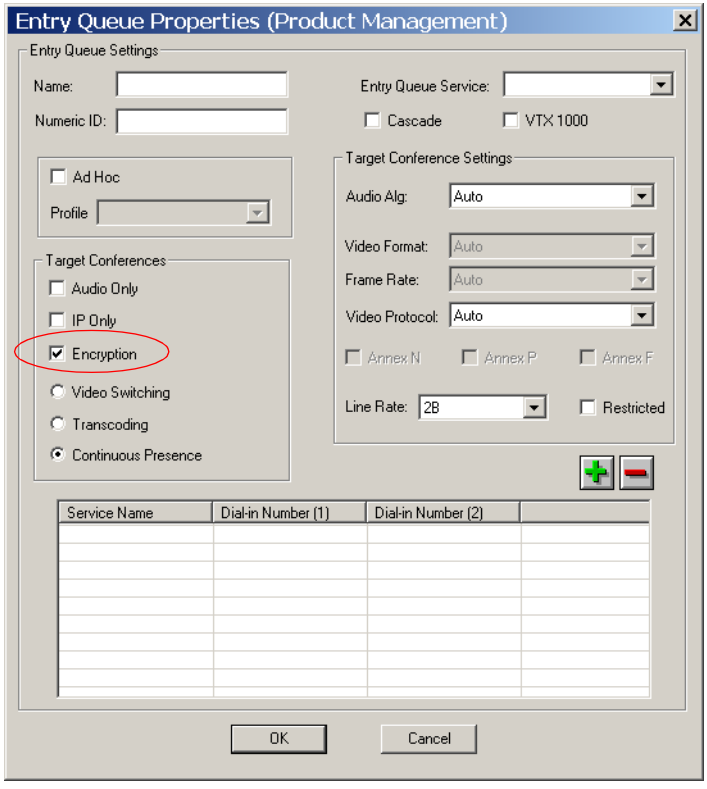
Encrypted participants can be moved from an encrypted Entry Queue to the destination conference depending on the destination conference settings and the setting of the participant-level flag in the "system.cfg" file:

- If the target conference is encrypted, and the participant-level flag is set to YES, encrypted and non-encrypted participants from both encrypted and non-encrypted Entry Queues can join the target conference.
- If the target conference is encrypted, and the participant-level flag is set to NO, only the encrypted participants from an encrypted Entry Queue can join the target conference.
- If the target conference is not encrypted, and the participant-level flag is set to YES, encrypted and non-encrypted participants from both encrypted and non-encrypted Entry Queues can join the target conference.
- If the target conference is not encrypted, and the participant-level flag is set to NO, only non-encrypted participants can join the target conference.

Enabling encryption for Entry Queues can only be done at the setup/reservation stage.

To enable encryption for the Entry Queue:

- In the *Entry Queue Properties* dialog box, select the *Encryption* check box.

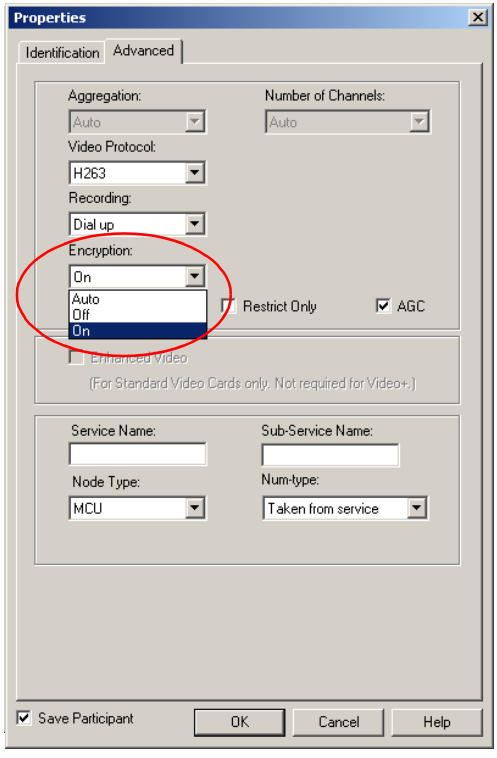


Enabling Encryption at the Participant Level

You can select the encryption mode for each of the defined participants. Encryption options are affected by the settings of the participant-level flag in the "system.cfg" file. Undefined participants are connected with the Participant *Encryption* option set to **Auto**, inheriting the Conference/Entry Queue encryption setting.

To enable encryption at the participant level:

- In the *Participant Properties – Advanced* dialog box, in the *Encryption* list, select one of the following options: **Auto**, **On**, or **Off**.



  - **Auto** - The participant inherits the Conference/Entry Queue encryption setting.
  - **On** - The participant joins the Conference/Entry Queue *encrypted.*
  - **Off** - The participant joins the Conference/Entry Queue *non-encrypted*.

When the participant encryption is set to Auto, the participant connects as encrypted only if the conference is defined as encrypted.
A non-encrypted undefined participant cannot connect to an Encrypted Auto Add conference, even if the encryption at the participant level flag is enabled.

Table 1-4 summarizes the dependencies between the connecting participant's defined encryption status, the Conference/Entry Queue encryption setting and the participant-level flag setting.

Table 1-4: Participant Level Encryption Options

Option	Conference/Entry Queue Encryption Enabled		Conference/Entry Queue Encryption Disabled	
	Participant Level Flag Setting		Participant Level Flag Setting	
	YES	NO	YES	NO
Auto	Joins conference encrypted	Joins conference encrypted	Joins conference non-encrypted	Joins conference non-encrypted
On	Joins conference encrypted	Joins conference encrypted	Joins conference encrypted	Cannot join conference
Off	Joins conference non-encrypted	Cannot join conference	Joins conference non-encrypted	Joins conference non-encrypted

Move Guidelines:

- When participants are moved to another conference their encryption settings and the MUX+/IP+ resources are evaluated to determine if the move is permitted. If not, the move fails and the participants remain in their original conference.
- In Video Switching conferences, the encryption setting of the moved ISDN participant must be identical to the destination conference's encryption setting. IP participants can move from encrypted to non-encrypted conferences and from non-encrypted to encrypted conferences.
- When the Participant Level flag is set to YES, participants can move between conferences that have different encryption settings, for example:
  - — From an encrypted conference to a non-encrypted conference or another encrypted conference.

— From a non-encrypted conference to an encrypted conference or another non-encrypted conference.

- When the Participant Level flag is set to **NO**, the participant's encryption setting must match the conference encryption setting to be moved to the other conference. For example, encrypted participants can move only from an encrypted conference to another encrypted conference.

These guidelines apply to both connected and disconnected/standby participants.

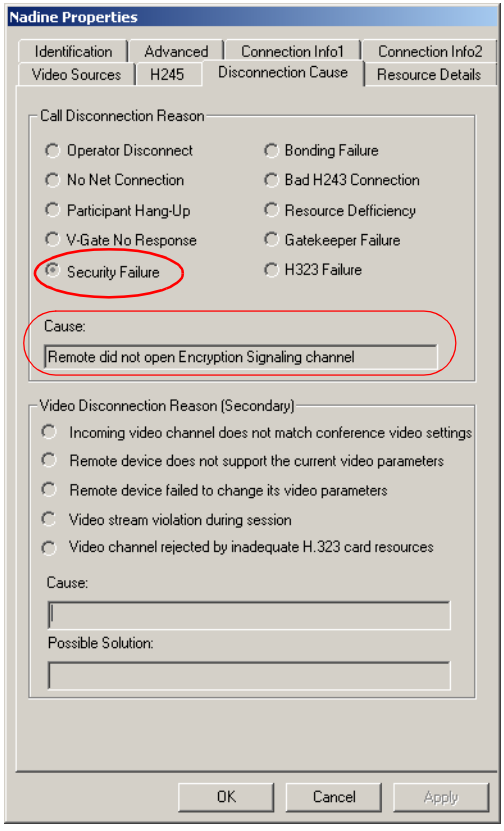
Monitoring the Encryption Status

The conference encryption status is indicated by an icon in the *Encryption* column in the *Status* pane and the Status column in the *Monitor* pane:

The participant encryption status is indicated by an icon in the *Encryption* column in the *Status* pane and the Status column in the *Monitor* pane:

For more information on monitoring the MCU features and capacities related to encryption, see the MGC Manager User's Guide, Volume I, Chapter 5, "Monitoring Conferences".

An encrypted participant who is unable to join a conference is disconnected from the conference. The disconnection cause is displayed in the *Participant Properties – Disconnection Cause* tab, where the *Security Failure* indication is selected, and the *Cause* box identifies the encryption related situation.



Extending the Conference Duration

The conference duration can be automatically extended without operator intervention. When the *Auto Extend* option is enabled for a conference, the conference predefined end time is continually postponed - as long as participants are connected and MCU resources are available.

When the *Auto Extend* option is enabled for a conference, *x* minutes before the end of the conference, (where *x* is the number of minutes defined for *End of Conference Alert* parameter in the *Conference Properties - Settings* dialog box) the system checks if at least one participant is connected to the conference. If a single participant is still connected, the system automatically extends the conference by *y* minutes (where the *y* value is defined in the EXTENSION_TIME_INTERVAL_FLAG in the AUTO_EXTENSION section of the "confer.cfg" file).

After an additional interval of *x* minutes, the system checks the connection status of the participants again. If no participant is connected to the conference, the system terminates the conference immediately. If at least one participant is connected, the system again extends the conference by additional *y* minutes.

This process continues up to *x* minutes before the maximum extended time defined in the "confer.cfg", is reached. At that point, the *End Of Conference Alert* audio tone is played and the conference status icon changes. The conference ends when the maximum extension time is reached.

The *End Of Conference Alert* feature can only be activated during the conference definition. During an On Going Conference, the *End Of Conference Alert* settings cannot be accessed or altered.

For example, in the "confer.cfg", the extension time is set to 6 minutes and the maximum extension time is set to 30 minutes, and you set the *End Of Conference Alert* time to 5 minutes. If the conference duration is set to 2 hours, after 1 hour and 55 minutes, the system checks whether a participant is still connected to the conference and if sufficient resources are allocated to extend the conference. If yes, the system extends the conference by 6 minutes (new duration is set to 2:06) - which is the extension time set in the "confer.cfg". The system checks the participants resources status again, 5 minutes before the end of conference and if a participant is still connected and if resources are available, the system adds another 6 minutes to the conference (new duration is set to 2:12).

This extension procedure is repeated until the maximum allowed duration (2:30) is reached, after which the system automatically ends the conference.

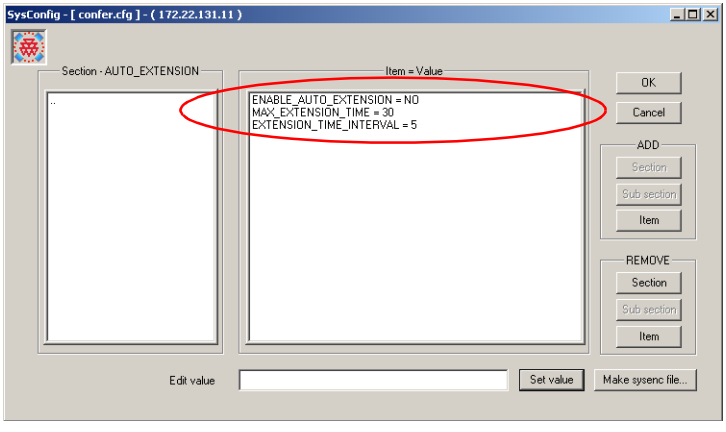
When no participant is connected, or when no resources are available to run this On Going conference (they are reserved for other conferences), the system automatically terminates the conference.

Setting Auto Extend at the MCU Level

When you enable the Auto Extend option and define the Auto Extend parameters at the MCU level, these settings apply to all the conferences that are run on this MCU.

To enable the Auto Extend option:

1. Connect to the MCU.
2. Right-click the *MCU* icon, select **MCU Utils** and the click **Edit "confer.cfg"**.
   The "confer.cfg" window opens.



3. In the *Section* pane, click AUTO_EXTENSION.
4. In the *Item=Value* pane, define the values of the following flags:
   — ENABLE_AUTO_EXTENSION = [YES/NO; default is NO] - enables or disables this option for all conferences running on this MCU. This option must also be enabled/defined at the conference level. For details, see "To set a conference to automatically extend:" on page 1-41.

— MAXIMUM_EXTENSION_TIME = [value, in minutes; default is 30] - the maximum allowed extension of the predefined conference duration. For example, if the conference was defined to last up to 3 hours and this flag is set to 45 minutes, the conference can last up to 3 hours and 45 minutes.

— EXTENSION_TIME_INTERVAL = [value, in minutes; default is 5] - number of minutes that are added to the conference duration each time the system performs a new check to determine whether or not at least a single participant is connected to the conference, and if resources are available for the extended conference.

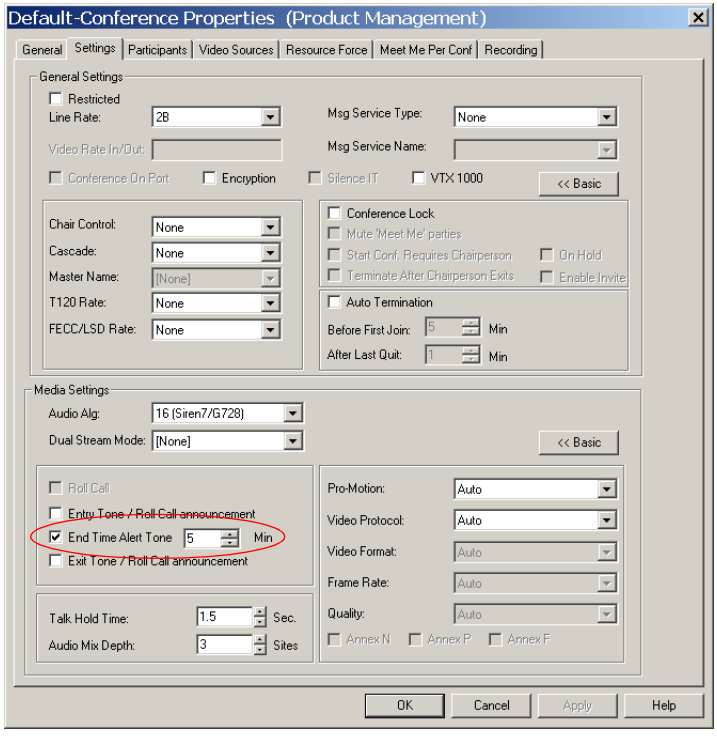
Setting Auto Extend at the Conference Level

Once the automatic extension parameters are enabled and defined in the system "confer.cfg" file, you can apply them to a specific conference, using the *Conference Properties – Settings* dialog box.

To set a conference to automatically extend:

1. In the *Conference Properties* dialog box, if the *Media Settings* area shows only the *Basic* settings, click the **Advanced** button to display the advanced settings options.
2. Select the **End Time Alert Tone** check box to apply the automatic extension of the conference duration.
3. Set the value, to define how many minutes before the end of the conference the system will play the *End Time Alert Tone* and display the end of conference alert icon .

This value determines when the system checks for the first time if at least a single participant is still connected to the conference, and if resources are available to automatically extend it. This check is repeated x minutes before the added time segment is up (to determine whether or not the conference should be extended again), until the predefined maximum extension time is reached and the conference is automatically ended by the MCU.



The operator can manually extend the conference duration.
For more information, see the MGC Manager User's Guide, Volume I, Chapter 6, "Extending a Conference Manually".

Cascading Conferences

Cascading enables operators to run two or more conferences as one conference, thereby allowing very large conferences.

The conferences that are part of a cascading conference may be run:

- On the same MCU, to overcome the maximum number of participants per conference (30 participants) when using the standard Audio card
- On separate MCUs, to utilize additional resources or to connect participants to their local MCU

The MGC unit supports cascading conferences with the following capabilities:

- *Simple Cascading (ISDN)* - Linking of two conferences using an ISDN connection
- *Simple Cascading (H.323)* - Linking of two conferences using an IP address for connection
- *Enhanced Cascading (H.323)* - Linking two conferences using an Alias for the IP connection

H.243 and MIH Cascading modes are also available. For H.243 Cascading Conferences, see Chapter 5, "H.243 Conferences".

Simple Cascading Modes

In cascaded conferences, MCUs are networked together using two modes:

- MCU Cluster - used for MCUs at different locations
- MCU Rollover - used for MCUs installed at the same location

MCU Cluster

In MCU Cluster mode, the MCUs are installed at different locations (states/countries), each MCU running its own conference. When all of these conferences are cascaded between them, they create one large conference that runs over a network of MCUs. This configuration is used to save long distance charges by connecting each participant to their local MCU, while only the links between the distributed conferences are billed as long distance calls.

To enable unattended cascaded conferences to run, the following setup items are required on each MCU:

- Select one MCU to be the main MCU to which the conferences in all other MCUs will connect.
- Define an Entry Queue Access-enabled Meeting Room on each MCU. The Entry Queue Access is used for “live” participants.
- Assign a dial-in number for direct dial-in to the Meeting Room on the main MCU. This number will be used by the links to dial into the Meeting Room and connect to it.
- Set up a link for each Meeting Room on the MCUs other than the designated main MCU, to the Meeting Room defined on the main MCU (a dial-out participant). The dial-out number defined for each of these participants is the dial-in number assigned to the Meeting Room.
- Define the dial-in participants for the Meeting Room on the main MCU, one for each Meeting Room link.

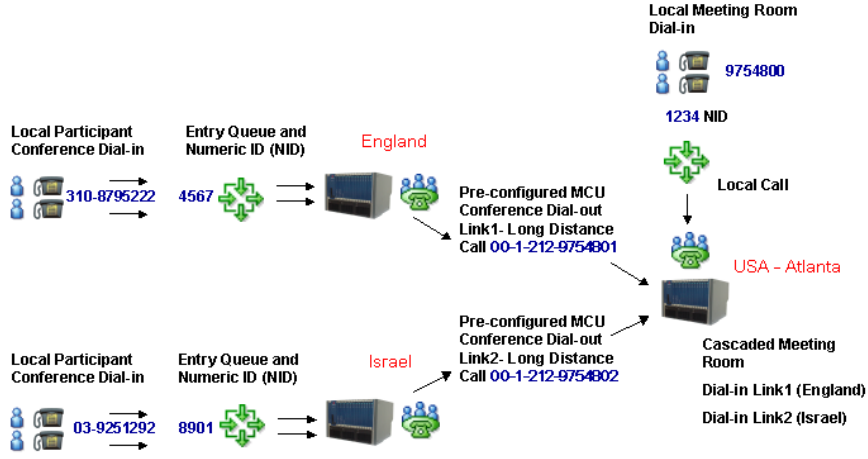


Figure 1-3: Simple Cascading in Cluster Mode

As illustrated in Figure 1-3, participants dial-in their local MCU to access the appropriate Entry Queue. Once they enter the correct conference ID or password (depending on MCU configuration), they are moved to their local Meeting Room. When the conference starts, the Cascaded (participant) link automatically dials out to the direct dial-in number assigned to the Meeting Room on the main MCU.

It is important to configure the IVR Service assigned to the Meeting Room without the need to enter the conference password, otherwise the links will not be able to connect to the conference.

MCU Rollover

In MCU Rollover mode, one MCU is used as the Master MCU; all MCUs are installed at the same location/site and are connected to the same network and PBX. This mode employs the same basic principle as the Cluster mode, where "local" Meeting Rooms connect to the "main" Meeting Room.

The PBX is configured to forward the calls from one MCU to another, when all the ports on one MCU are used.

In all MCUs in the network, the Meeting Rooms have the same configuration, and each one of them includes a link to the "main" Meeting Room on the Master MCU.

To allocate dial-in numbers to the "main" Meeting Room on the Master MCU, it must be defined as both Meet Me Per Conference and Entry Queue Access (the participants connect via the Entry Queue, while the cascade links connect directly). This applies to MCU Cluster and MCU Rollover cascading modes.

Using DTMF Codes in Cascading Conferences

DTMF codes can be used in a cascaded conference if the MCU is capable of sending the DTMF codes to several MCUs. These codes enable the chairperson to control all the participants in the cascaded conference.

Using DTMF codes the chairperson can perform the following operations in a cascaded conference:

- Set the chairperson as the conference's exclusive speaker while muting all other conference participants
- Terminate the conference
- Lock or unlock the conference to dial-in participants
- Secure or release a secured conference
- Place the conference on hold

If the chairperson uses any other DTMF codes, only the participants in the chairperson's local conference are affected.

Simple Cascading

In Simple Cascading, one conference is connected directly to another conference. With Simple Cascading it is possible to connect conferences using both ISDN and H.323 links. Conferences can run on different MCUs or on the same MCU; using cascading on a single MCU enables you to run very large conferences whose number of participants exceeds the predefined maximum number of participants per conference.

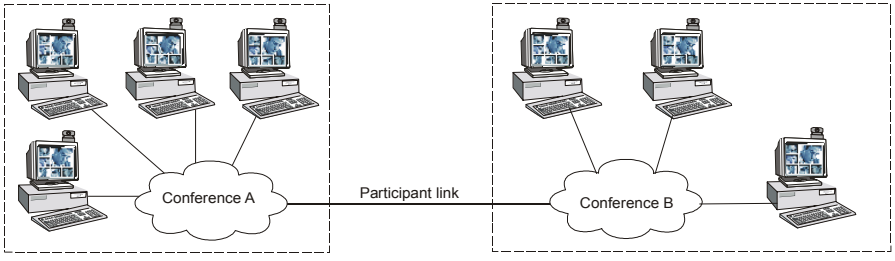


Figure 1-4: Simple Cascading Scheme

In Figure 1-4, a participant dials from one MCU to another, establishing a dial-in link in conference A and a dial-out link in conference B.

Simple Cascading with an ISDN Link

In Simple Cascading you set up two conferences. In conference A you define one participant as a link from conference B. This participant is defined as the dial-in ISDN participant, *Meet Me per* **Party**, and you enter the dial-in number for this participant. In conference B, you define one participant as a link to conference A. This participant is defined as the dial-out ISDN participant; the dial-out number is the same as the MCU number of the dial-in link in conference A.

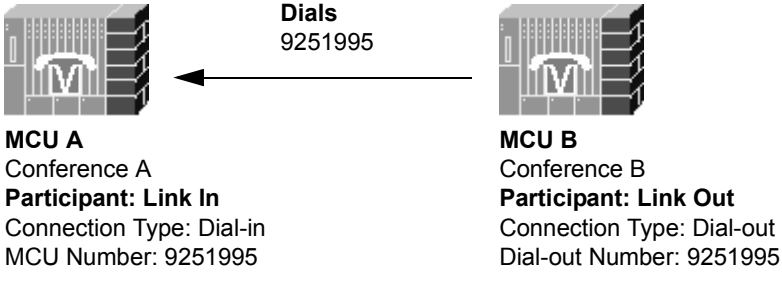
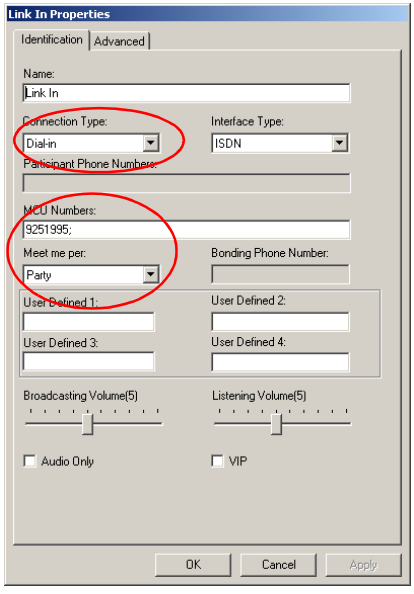


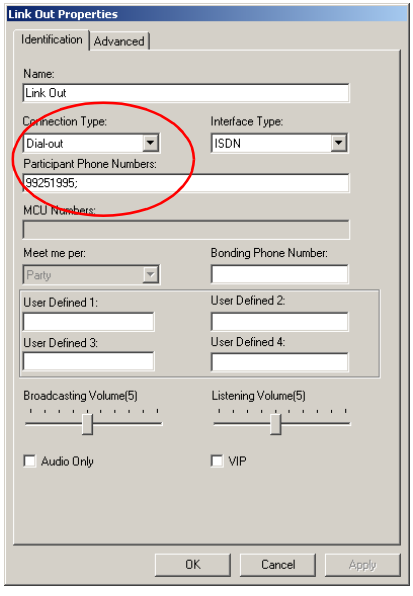
Figure 1-5: Simple Cascading with an ISDN link

To define the ISDN link between conferences:

The *Participant's Properties - Identification* dialog boxes show how to define the ISDN links for each participant in a conference that uses Simple Cascading, as described in the configuration example in Figure 1-5.



Participant Properties - Link In (Conference A)



Participant Properties - Link Out (Conference B)

Monitoring

You can monitor a Simple Cascading Conference using the B*rowser, Status* and *Monitor* panes of the MGC Manager main window. The display shows separate information for each of the two linked conferences using an ISDN link, as shown in Figure 1-6.

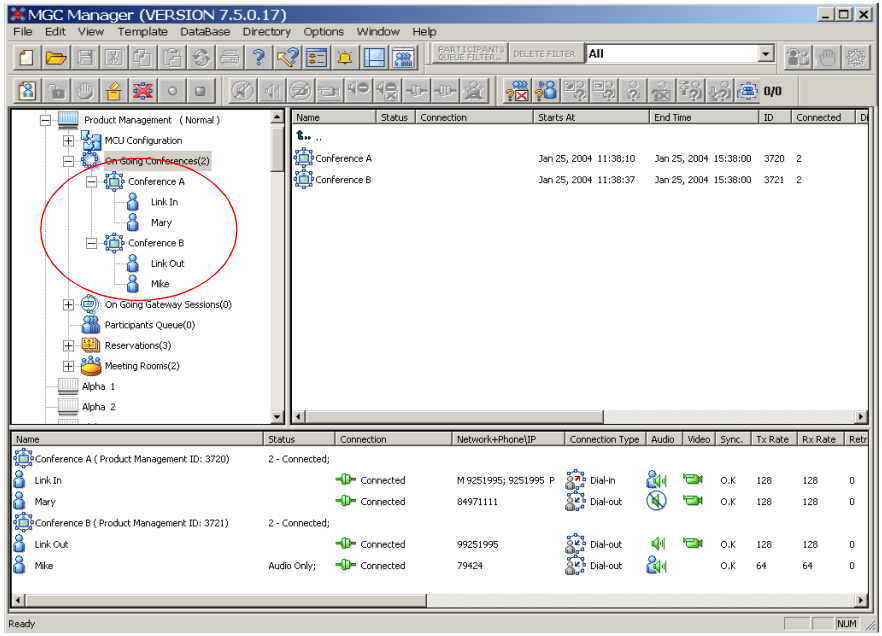

MGC Manager (VERSION 7.5.0.17)
File Edit View Template DataBase Directory Options Window Help
Product Management (Normal)
MCU Configuration
On Going Conferences(2)
Conference A
Link In
Mary
Conference B
Link Out
Mike
On Going Gateway Sessions(0)
Participants Queue(0)
Reservations(3)
Meeting Rooms(2)
Alpha 1
Alpha 2
Name Status Connection Starts At End Time ID Connected
Conference A Jan 25, 2004 11:38:10 Jan 25, 2004 15:38:00 3720 2
Conference B Jan 25, 2004 11:38:37 Jan 25, 2004 15:38:00 3721 2
Name Status Connection Network+Phone\IP Connection Type Audio Video Sync. Tx Rate Rx Rate Retr
Conference A (Product Management ID: 3720) 2 - Connected;
Link In Connected M 9251995; 9251995 P Dial-in O.K 128 128 0
Mary Connected 84971111 Dial-out O.K 128 128 0
Conference B (Product Management ID: 3721) 2 - Connected;
Link Out Connected 99251995 Dial-out O.K 128 128 0
Mike Audio Only; Connected 79424 Dial-out O.K 64 64 0
Ready
NUM

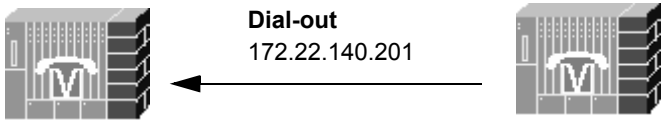
Figure 1-6: Monitoring Cascading Conferences with an ISDN Link

Simple Cascading with an H.323 Link

You can use an H.323 participant definition as the link between two conferences.

In conference A, you define one participant as a link from conference B. This participant is defined as a dial-in H.323 participant, with the IP address of the IP card in MCU B from which the call originated. The IP address of the IP card is defined in the IP Network Service as was set up in MCU B.

In conference B you define one participant as a link to conference A. This participant is defined as a dial-out H.323 participant, with the IP address of the IP card in MCU A.



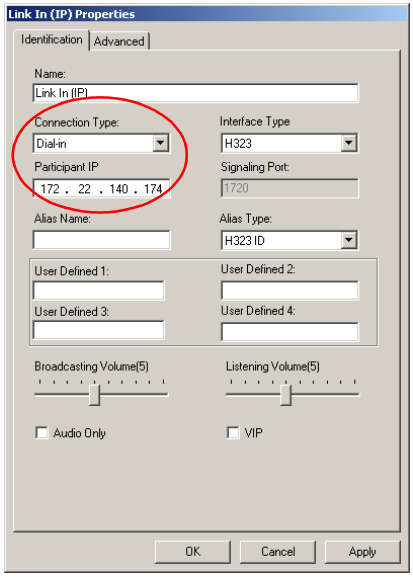
MCU A
IP Card: 172.22.140.201
Conference A
Participant: Link In
Connection Type: Dial-in
IP Address: 172.22.140.174
(IP Address of the card making the call from MCU B, conference B)

MCU B
IP Card: 172.22.140.174
Conference B
Participant: Link Out
Connection Type: Dial-out
IP Address: 172.22.140.201
(IP Address of the card receiving the call on MCU A, conference A)

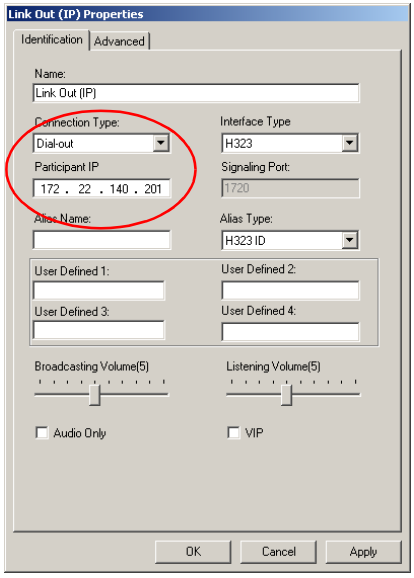
Figure 1-7: Simple Cascading using an H.323 Link

To define the H.323 Link:

The *Participant's Properties - Identification* dialog boxes show how to define the participants used as links in each of the conferences described in the configuration example in Figure 1-7 on page page 1-49.



Participant Properties - Link In (Conference A)



Participant Properties - Link Out (Conference B)

If the IP card in the default IP Network Service is full and another IP Network Service is used, perform the following steps:

- Define the dial-out participant in the second conference (manual dial-out) and complete the conference definition
- Check the *Participant Properties - Advanced* to find out the name of the IP Network Service being used. Then find out the IP address of the card as defined in the IP Network Service
- Define the first conference and the dial-in participant. Enter the IP address of the card used by the dial-out participant
- Connect the dial-out participant

Monitoring

Monitoring of cascading conferences with an H.323 link is done in the same way as with an ISDN link. Figure 1-8 shows information for each of the two linked conferences using an H.323 link.

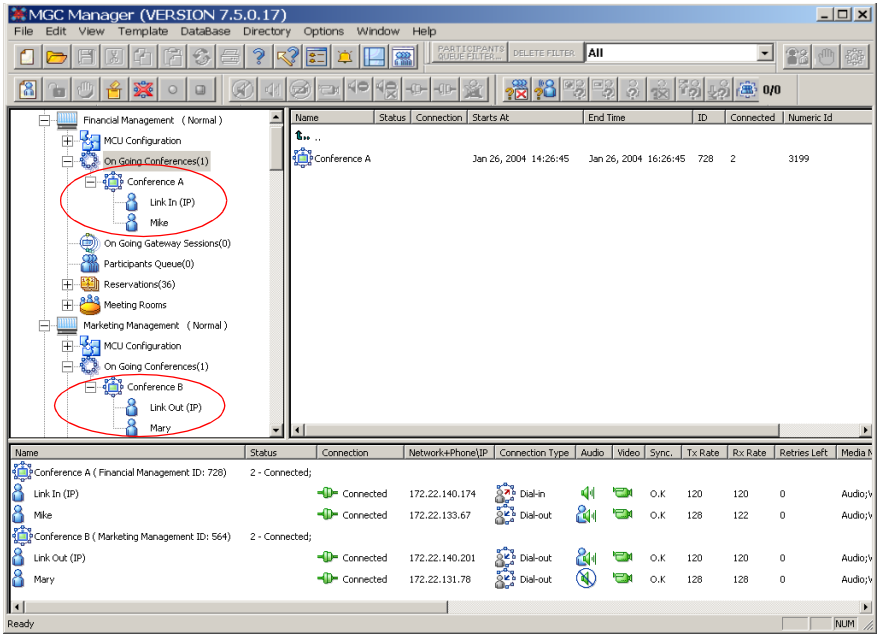

MGC Manager (VERSION 7.5.0.17)
File Edit View Template DataBase Directory Options Window Help
Financial Management (Normal)
MCU Configuration
On Going Conferences(1)
Conference A
Link In (IP)
Mike
On Going Gateway Sessions(0)
Participants Queue(0)
Reservations(36)
Meeting Rooms
Marketing Management (Normal)
MCU Configuration
On Going Conferences(1)
Conference B
Link Out (IP)
Mary
Name Status Connection Starts At End Time ID Connected Numeric Id
Conference A Jan 26, 2004 14:26:45 Jan 26, 2004 16:26:45 728 2 3199
Name Status Connection Network+Phone\IP Connection Type Audio Video Sync. Tx Rate Rx Rate Retries Left
Conference A (Financial Management ID: 728) 2 - Connected;
Link In (IP) Connected 172.22.140.174 Dial-in O.K 120 120 0 Audio;v
Mike Connected 172.22.133.67 Dial-out O.K 128 122 0 Audio;v
Conference B (Marketing Management ID: 564) 2 - Connected;
Link Out (IP) Connected 172.22.140.201 Dial-out O.K 120 120 0 Audio;v
Mary Connected 172.22.131.78 Dial-out O.K 128 128 0 Audio;v
Ready
NUM

Figure 1-8: Monitoring Cascading Conferences with an H.323 Link

Defining H.323 Cascading Conference Participants

The conference name is automatically added to an outgoing H.323 call (as an H.323 ID in the 'call setup' message). The message H.323 ID is then defined as an H.323 alias that matches all incoming parties to the conference.

In case the conference name is designated as "numeric", the H.323 Network Service Properties stores the Gatekeeper Prefix of the card that is used to define the *Alias Name* in the *Participant Properties*.

- Set the *Alias Type* to **E.164** format in the *Participant Properties*.

Enhanced Cascading with H.323 Links

Enhanced Cascading enables you to set up links between cascading conferences using aliases and the *Prefix* of the IP Network Service instead of the IP address of the IP card. When the Prefix is used, the conference name is added to the IP Network Service Prefix as the dial-out string for the outgoing H.323 call. In this case, the alias is defined in the H323ID format. If the destination conference name includes only numeric values, the alias is comprised of the prefix number and the conference name. Therefore, the alias type should be set to E.164.

Enhanced cascading using aliases is enabled in the “system.cfg”, in the H323 GK FLAGS Section by setting the flag:
H323_ENABLE_CONFERENCE_DIALIN_IDENTIFY=NO to YES.

You can start the Enhanced Cascading conferences in the same way as Simple Cascading conferences, by setting up each conference as a standard conference, and then linking the participants and connecting the link.

In this mode, the name of the master conference (MasterConference) is used as the dial-out alias for the links from the slave conferences, while the name of the slave conference (Slave1) is used as the alias identifying the dial-in participant used as the link from the slave conference.

Configuration Example

In the configuration example shown in Figure 1-9, each of the Slave conferences includes one dial-out participant used as the link to the master conference. The dial-out alias for each conference is the MCU prefix (1719) and the name of the master conference (MasterConference).

The master conference (MasterConference) includes three dial-in participants whose aliases are the names of their originating slave conferences (Slave1, Slave2 and Slave3).

DTMF enabled cascading can also be applied to H.323 Enhanced Cascading conferences. For detail see “Using DTMF Codes in Cascading Conferences” on page 1-45.

Figure 1-9 illustrates the Enhanced Cascading links between conferences.

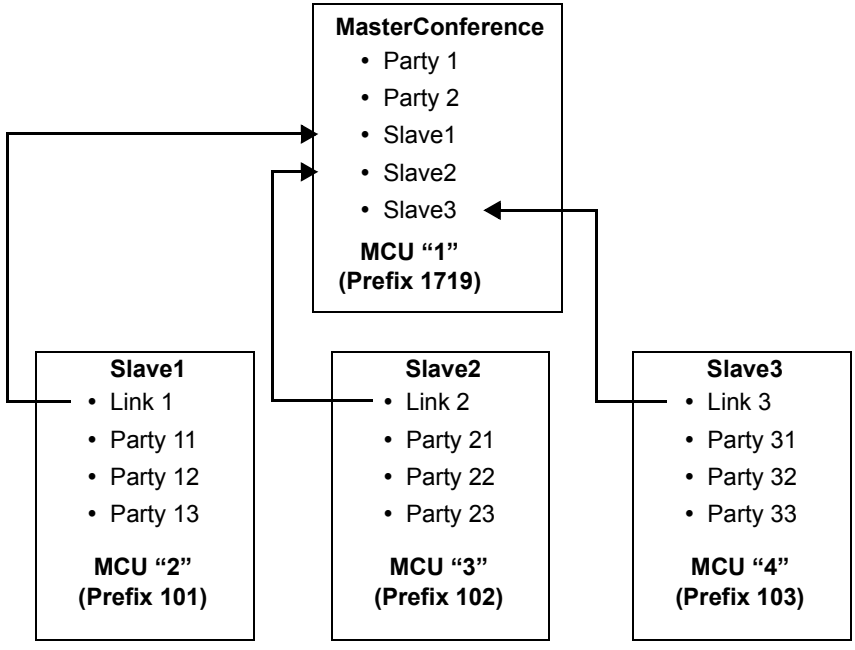
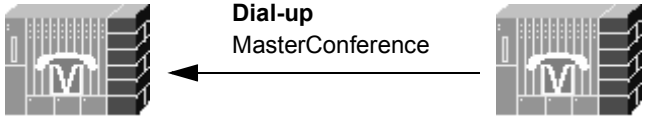


Figure 1-9: Enhanced Cascading with H.323 Links



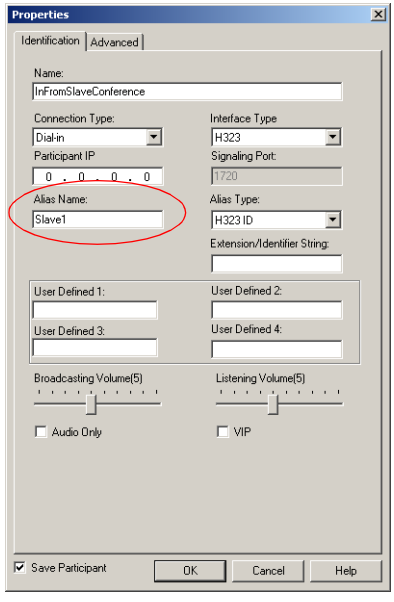
MCU A
Conference Name: MasterConference
Participant: InFrom MasterConference
Connection Type: Dial-in
Alias Name: Slave1 (name of the conference making the call from MCU B)
Network Service Prefix:1719

MCU B
Conference Name: Slave1
Participant: OutTo MasterConference
Connection Type: Dial-out
Alias Name: 1719MasterConference (Network Service Prefix and the name of the Master conference on MCU A)

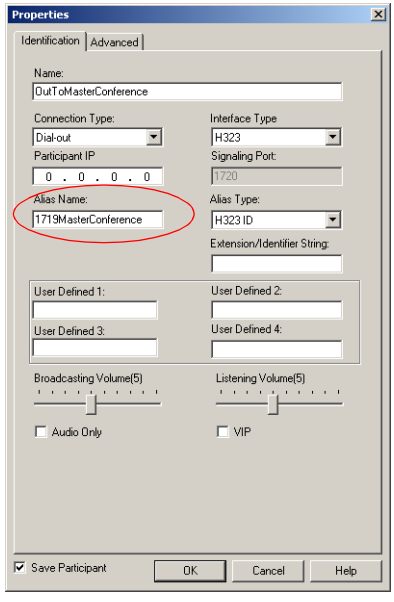
Figure 1-10: Enhanced Cascading using H.323 Links

To define the H.323 Enhanced Cascading links:

The *Participant's Properties - Identification* dialog boxes show how to define the participants used as links in each of the Enhanced Cascading conferences described in Figure 1-10.



Participant Properties - Link In



Participant Properties - Link Out

Table 1-5 summarizes the participant definition options in the Master and Slave conferences based on Figure 1-10 on page page 1-53.

Table 1-5: Participant Definition Options - Summary

Participant Definition	Description
Link 1 (defined in conference Slave1)	In conference Slave1, define a dial-out participant (Link 1) whose dial-out alias is the prefix of the MCU and the master conference name (the alias in the example above is 1719MasterConference).
Link 2 (defined in conference Slave2)	In conference Slave2, define a dial-out participant (Link 2) whose dial-out alias is the prefix of the MCU and the master conference name (the alias in the example above is 1719MasterConference).

Table 1-5: Participant Definition Options - Summary (Continued)

Participant Definition	Description
Link 3 (defined in conference Slave3)	In conference Slave3, define a dial-out participant (Link 3) whose dial-out alias is the prefix of the MCU and the master conference name (the alias in the example above is 1719MasterConference).
Slave1 (defined in conference MasterConference)	In the Master conference, define a dial-in participant as the link from conference Slave1. The alias that will be used to identify the dial-in participant can be the name of the calling slave conference (**Slave1**).
Slave2 (defined in conference MasterConference)	In the Master conference, define a dial-in participant as the link from conference Slave2. The alias that will be used to identify the dial-in participant can be the name of the calling slave conference (**Slave2**).
Slave3 (defined in conference MasterConference)	In the Master conference, define a dial-in participant as the link from conference Slave3. The alias that will be used to identify the dial-in participant can be the name of the calling slave conference (**Slave3**).

Monitoring

Monitoring of cascading conferences with an H.323 Enhanced Cascading link is done in the same way as with an ISDN link.

You can link several slave conferences to one master conference as in “Star” cascading topology.

For information on Star Cascading using the H.243 Standard, see Chapter 5, “H.243 Conferences”.

Ad Hoc Auto Cascading

The Auto Cascade feature enables automatic cascading of Ad Hoc conferences over multiple MCUs. For details see “Ad Hoc Auto Cascading” on page 3-16.

Configuring Large Video Switching Conferences

The default standard Audio card configuration allows the card to support only up to 16 participants in a Video Switching conference. However, if your system does not include Audio+ cards, you can configure standard Audio cards to include 30 participants in a single Video Switching conference.

Systems with Audio+ cards support large Video Switching conferences without additional configuration.

When the audio bridge unit on the standard Audio card is configured for a conference of up to 30 participants, it can run only one conference at a time, even if the number of the participants is reduced to less than 16. If the conference started as a small conference and is running on another audio bridge unit, when adding the 17th participant, the system will attempt to move the conference to the audio bridge unit configured as 1/30 (1 indicates the maximum number of conferences, 30 indicates the maximum number of participants that can be supported). If this audio bridge unit is occupied, the 17th participant will be rejected. The system uses the audio bridge unit that is set to 30 participants to manage conferences with 17 to 30 participants. If the conference has 16 participants or less, the system uses other audio bridges, if available. If no other audio bridge unit is available, the audio bridge unit set as 1/30 will run the smaller conference, but will not be able to run more than one conference at a time.

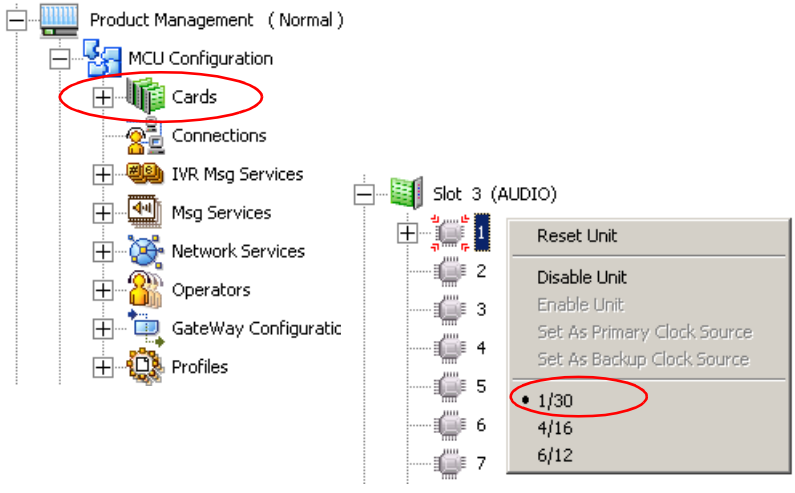
With the Audio+ card, up to 100 participants can connect to one Video Switching conference at 128 Kbps line rate. No special settings are required.

To set the Audio bridge unit to run large Video Switching conferences (Standard Audio card):

1. Connect to the MCU.
2. In the *Browser* area, expand the *MCU* tree to list its options.
3. Expand the *MCU Configuration* tree to list its options.

   A list of options appears below the *MCU Configuration* icon.
4. Expand the *Cards* tree to display the cards installed in the MCU.
5. Expand the list of units by selecting the slot containing the Standard Audio Card.

6. Right-click the *Audio Bridge* unit , and then click **1/30**.



A bullet appears next to the chosen configuration. This audio bridge unit is now reserved for large Video Switching conferences.

Automatic Line Rate Detection

The MGC unit can automatically detect the communication mode (for example, the type of video protocol) and the bandwidth of incoming and outgoing ISDN calls and connect the participant accordingly. This capability does not require prior setting of the line rate during the conference setup. A participant can be connected at any line rate up to the line rate that was set for the conference. For example, if the conference line rate is set to 6B, the participant can be connected at a line rate between 2B to 6B (Bonding or H.221), according to the endpoint capability. This option is advantageous when the participant's endpoint capabilities are unknown at the time of the conference setup, especially when defining a Transcoding or a Continuous Presence conference.

The *Auto Rate Detect* option is applicable to defined participants in standard conferences.

This option is not applicable to IP, ATM and MPI participants.

When the *Auto Rate Detect* feature is enabled, MGC Manager automatically identifies the following parameters for incoming calls:

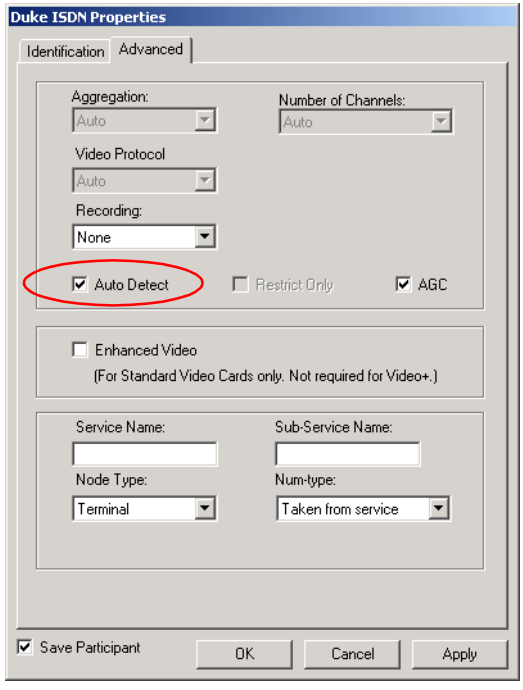
- H.221 aggregation, from 2B to 6B, restricted and non-restricted (using the same CLI number for all channels)
- Video Protocol (H.261, H.263, and H.264)
- Bonding from 128 Kbps to 384 Kbps, restricted and non-restricted
- Voice Only
- CIF/QCIF Frame Rate

Setting up of automatic line rate detection is done on the participant level for each endpoint, during the participant properties setup.

For a detailed description of the participant definition, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

To enable Auto Rate Detect:

- During the definition of the participant parameters, in the *Participant Properties – Advanced* dialog box, select the **Auto Detect** option.



When the *Auto Detect* option is selected, the *Number of Channels, Video Protocol and Aggregation* fields are disabled, as these parameters are derived from the endpoint's capabilities at connection time, and according to the conference settings. The line rate that is defined for a conference is also the maximum line rate in which the participant can connect to that conference.

Dial-in Auto Detect

When the participant dials in to the MCU, each channel is detected by the MCU and the system tries to connect the participant using the *Bonding* protocol. If the connection that uses Bonding is successful, the negotiation with the endpoint communicates the number of additional channels to be connected. The participant's connection continues, using the Bonding connection procedure. If the Bonding connection fails, the MCU tries to connect the endpoint using the H.221 standard. If this attempt fails as well, the connection with the endpoint is terminated. If the capabilities exchange is

successful, the endpoint is connected according to the conference line rate communicated by the MCU during the capabilities exchange, and using the standard H.221 aggregation procedure.

Dial-out Auto Detect

When a dial-out participant connects to the conference, the system exchanges capabilities with the endpoint and attempts to connect the participant using Bonding. If Bonding is unavailable, the participant is connected in H.221. Once the aggregation method is determined, the MCU attempts to connect the participant at the Line Rate defined for the conference. If this fails, it connects the participant using a lower line rate.

- When Bonding fails and H.221 is selected, problems may occur when connecting the participant, if the operator entered only one dial number and the participant's line rate is higher than 2B (128 Kbps).
- H0 is not automatically detected.

Monitoring

You can view the endpoint's connection parameters in the *Monitor* and *Status* panes of the MGC Manager window. For more details, see the MGC Manger User's Guide, Volume I, Chapter 5.

2

IVR and Entry Queue Services

Interactive Voice Response (IVR) is an application that allows participants to communicate with the conferencing system over the telephone or via their endpoint's input device (such as a remote control). IVR automates the connection to the conference process and enables the participant to perform various operations during the On Going Conference. By combining the input of the caller with the menu-driven scripts, participants can call the conference dial-in number and use a touch-tone telephone or the endpoint's remote control to interact with the conferencing system.

The IVR system requires the installation of the Audio+ card in the MCU. The Video+ card is required for the Click&View application.

This chapter describes the following features and terms:

- What is an IVR Service and how it is used to access a conference.
- IVR hardware - describes the hardware required to run an IVR-enabled conference.
- IVR Stages - describes the various participant statuses during a conference using the IVR system.
- The operations that can be performed during an On Going Conference to which an IVR Service is assigned (an IVR-enabled conference).
- Roll Call - describes the Roll Call module of the IVR system.
- SilenceIT - describes the SilenceIT feature used to automatically detect and mute noisy lines.
- Audio and Video Conversion Tools - briefly describes the tools required to convert audio (*.wav) and video (*.raw) file into the MGC internal format (*.aca and *.acv). These tools are detailed in the MGC Administrator's Guide, Chapter 8, "Audio and Video Conversion Tools".

This chapter also provides step-by-step instructions for the following procedures:

- Defining the general properties of the IVR software module
- Defining a new IVR Service
- Defining a new Entry Queue Service
- Verifying the Messages Status

What is an IVR Service?

The IVR Service includes a set of voice prompts that allow support of multiple languages and user-specific voice prompts. This set is activated when a participant connects to the Polycom MCU for conference access or when certain events occur during the conference, such as voting sessions, Q&A sessions, requests for operator assistance and modifying self volume. The IVR service is also used to enable special conferencing features such as Roll Call and SilenceIT.

The IVR Service is assigned to specific conferences. A different IVR Service can be assigned to each conference or the same IVR Service can be used for all conferences. If an IVR Service is assigned to the conference, the caller must respond through the touch-tone keypad to the voice prompts defined in the IVR Service in order to connect to the conference.

Different IVR Services can be created, allowing customization of the menu-driven scripts and voice prompts to meet different needs. For video conferences, a IVR Service can include a video slide that is displayed when the participants connect to an Entry Queue or an IVR queue.

The Entry Queue Service is a subset of the IVR Service. It is used in conjunction with the Entry Queue. Using a limited set of voice prompts, the callers are routed to the appropriate conferences. For more details about Entry Queues, see the MGC Manager User's Guide, Volume I, Chapter 8.

The Entry Queue Service and the IVR Service must be used in Ad Hoc conferencing. This allows callers to initiate an On Going conference without prior scheduling, based on conference parameters taken from a Profile assigned to the Entry Queue. The system also can verify the participant's right to start such a conference with an external database application.

The IVR service can also be configured to verify the participant's right to join a conference. For more details, see Chapter 3, "IVR Service with Access to the External Database Application" on page 3-27.

Up to 30 IVR Services can be defined for a single MGC unit.

IVR and Entry Queue Stages

Participants attending an IVR-enabled conference (a conference to which an IVR Service is assigned) or connecting to an Entry Queue can be in one of the following stages:

- **Greeting –** Participants connect to the Entry Queue or directly to an IVR-enabled conference where they hear an audio *Welcome* message, view the slide (in video, but not in Audio Only conferencing) and are guided through their connection process using voice prompts. In the Entry Queue, participants are routed to the destination conference according to the conference Numeric ID they enter, or according to the conference entry password (depending on the system configuration). Participants connecting directly to an IVR-enabled conference are allowed in to the conference once they have entered the appropriate conference entry password and/or chairperson password. If the Entry Queue or the IVR-enabled conference is set to Attended mode (the Entry Queue Service or the IVR Service is configured to "On-Hold for Operator Assistance"), the participants are moved to the Participants Queue where they wait for the operator to connect them to the conference.
- **Attended –** Participants are moved to the Operator conference. After a short conversation with the participant, the operator moves the participant to the appropriate conference (Home conference), or places the participant on hold.
- **On Hold –** Participants are placed on hold. While waiting for the operator's assistance, they hear background music and (for video IVR) a video slide is displayed. Participants waiting in the Entry Queue are also placed on hold and moved to the Participants Queue when they enter the wrong Numeric ID or the wrong password. While on hold, they wait for the operator to connect them to the conference.

Operator assistance must be enabled in the Entry Queue or the IVR Service, and an Operator conference must be running on the same MCU.

- **Conferencing –** The participants are connected to the On Going Conference and they can request operator assistance or perform various operations via DTMF codes.

An IVR Service must be assigned to the On Going conference during the conference setup.

In attended conferences, the operator controls the transition to the Attended or On Hold stages and from these stages to the Conferencing stage. If the IVR/ Entry Queue Service is not set to attended mode (*On-Hold for Operator Assistance*), the participant is automatically moved from the Entry Queue or the conference IVR queue (Greeting stage) to the conference (Conferencing stage).

If an Entry Queue is used in conjunction with a conference to which an IVR Service is assigned, the caller is automatically transferred from the Entry Queue to the conference IVR queue (if this Entry Queue is set to the unattended mode). If not set otherwise, the participant is then automatically moved from the conference IVR queue to the conference.

Several operators can run IVR-enabled conferences simultaneously.

Conference Access

Dial-in participants can access the conference directly, via the IVR system or via an Entry Queue. The following examples demonstrate the common connection methods to a conference:

Conference IVR Access

Participants dial the conference dial-in numbers and are connected to the conference IVR Service. Using touch-tone signals from their telephone or endpoint's remote control, participants input the required information to menu-driven scripts and voice prompts that are part of the IVR Service. Once the correct information is entered, the participants are connected to the conference.

The IVR Service is assigned at the conference level, and different conferences can use different IVR Services, or the same IVR Service can be used for all conferences.

In the example in Figure 2-1, a dial-in number is assigned to an IVR-enabled conference. When the participants dial in, they are routed to the appropriate conference according to the dial-in number they have entered, where they enter the conference IVR queue.

Using the DTMF input device (touch-tone telephone or endpoint's remote control), the participants enter the conference entry password and other information, and then they enter the conference accordingly.

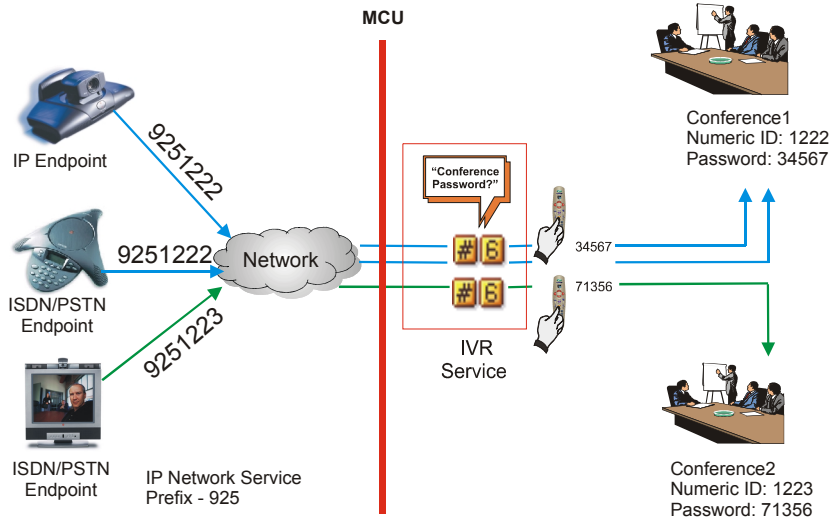


Figure 2-1: Dial-in Connection via IVR System

Dial-out participants connecting to the conference also enter the IVR greeting stage if the IVR service assigned to the conference is configured to prompt dial-out participants for the conference passwords.

Entry Queue Access

Entry Queue Access is a call routing method in which all participants with the same conference properties dial the same dial-in number. This dial-in number is assigned to the Entry Queue. Participants are guided to the conference using menu-driven scripts that are part of the Entry Queue Service. Touch-tone signals (DTMF codes) are the user input to voice prompts. The Entry

Queue Service is a subset of the IVR Service and behaves in the same way. The target conference must have the same properties as the Entry Queue, therefore several Entry Queues can be created to accommodate different conference settings. However, a Video Entry Queue can be used also for audio only conferences and you do not need to define a separate Entry Queue for Audio Only conferences.

The Entry Queue enables you to use a limited number of dial-in numbers for all the conferences and to use toll-free numbers for conferences which are charged to the meeting organizers. An IVR Service can also be assigned to the conferences accessed from the Entry Queue.

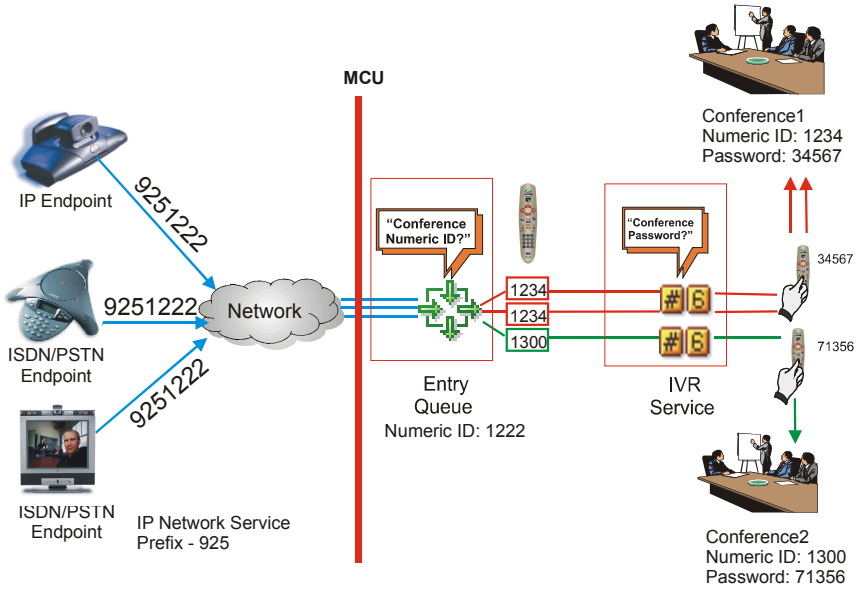


Figure 2-2: Dial-in Connection via Entry Queue

In the example in Figure 2-2, one dial-in number is allocated to an Entry Queue and a different password is assigned to each conference. The dial-in number, the conference Numeric ID and passwords are communicated to the conference participants. When calling the dial-in number the participants access the Entry Queue where they enter the conference Numeric ID and subsequently they are routed to the appropriate conference. If an IVR Service

is assigned to the conference, the participants enter the IVR greeting stage, where they have to enter additional information using DTMF codes. If no IVR Service was assigned to the conference, the participants connect directly to the conference.

Direct Access

In Meet Me Per Conference and Meeting Room conferences, Participants simply dial the conference dial-in number. In this case, the participants are not required to enter the conference Numeric ID and/or passwords.

Operator Conferences

An Operator conference allows the operator and one participant to talk without disturbing the On Going Conference. The participant taking part in an Operator conference is moved out of the Entry Queue/IVR queue/Participant Queue or the On Going Conference to the Operator conference. For more details, see the MGC Manager User's Guide, Volume I, Chapter 8.

An Operator conference must be active to enable the operator to perform various operations during an IVR-enabled On Going Conference and move participants between the different IVR stages.

Operations Performed Using the IVR Service

In IVR-enabled conferences, various operations can be performed by the operator or the conference chairperson. These operations are available only when an IVR Service is assigned to the conference using the IVR Software module. The IVR software module enables the Operator to perform the following operations using the MGC Manager application or via the Web browser using the MGC WebCommander application:

- Individual and personal guidance of participants to the conferences.
- Monitor all participants currently waiting in the Entry Queue, conference IVR queue and Participants Queue regardless of their conference association.
- Perform various operations to assist participants while in the Entry Queue, IVR queue, Participants Queue or during the conference.
- Conduct voting sessions during an On Going Conference.
- Control Question & Answer sessions during an On Going Conference.

The IVR software module enables participants and the conference chairperson to perform various operations from their endpoints using DTMF codes. Table 2-1 lists these actions and the default operation permissions.

These operations can be performed from the participant's endpoint using DTMF codes only if an IVR Service is assigned to the conference.
For a list of default DTMF codes, see the MGC Manager User's Guide, Volume I, Chapter 6.

Table 2-1: DTMF Enabled Actions and Permissions

DTMF Enabled Action	Permission
Request personal assistance	Everyone
Play the help menu	Everyone
Adjust the participant's broadcasting and listening volume	Everyone
Change the participant's status to Chairperson	Everyone
Lock or unlock a conference to dial-in undefined participants	Chairperson
Request assistance for conference	Chairperson
Secure or unsecure a conference	Chairperson
Mute all participants except the requesting participant	Chairperson
Cancel the *Mute All* mode	Chairperson
Enable or disable the SilenceIT feature	Chairperson
Adjust SilenceIT sensitivity	Chairperson
Change the conference password	Chairperson
Place the conference on-hold and reinstate it	Chairperson
Mute "Meet Me" participants upon their connection to the conference	Chairperson
Manage Question-and-Answer sessions	Chairperson
Enable or disable the Roll Call feature	Chairperson

Table 2-1: DTMF Enabled Actions and Permissions (Continued)

DTMF Enabled Action	Permission
Request a Roll Call	Chairperson
Stop the Roll Call names review	Chairperson
Invite other participants to join the conference	Chairperson in an Audio Only conference
End the Conference	Chairperson
Start and stop recording	Chairperson

Using Roll Call

The Roll Call feature is used in IVR Message Services to record the participant's name and play it back when the participant enters or leaves a conference. The purpose of Roll Call is to ensure that all required participants are present, and to identify the participants to one another.

A participant connecting to the conference is asked to record their name. The system records the name and plays the recorded name when the participant enters and leaves the conference. During an IVR enabled conference, the chairperson can request the system to play the names of all connected participants at the beginning of the conference, or at any time during the conference. The IVR system plays the recorded list of conference attendees, one after the other, in the order that they entered the conference. The recordings are played to all the conference participants.

The basic flow of Roll Call comprises these stages:

1. The participants connect to the conference, and are requested to record their name.
2. The participants record their name. The recording is automatically terminated after two seconds.

3. The system plays the recorded name to the participant and asks for confirmation by pressing a pre-configured key or the participant can record his/her name again.

Playing the Roll Call Confirm Record message to participants is optional. The Roll Call Confirmation message is not played to the participant when the flag ROLL_CALL_CONFIRMATION = YES (default), located in the GREET AND GUIDE\IVR section of the “system.cfg” is set to NO.

4. Once the participant confirms the recording, the system connects the participant to the conference and announces his/her name to the connected participants.
5. During the conference, the chairperson can request a roll call using the appropriate DTMF code from the endpoint’s input device. The system plays back the recorded names of the participants to all the conference participants, one after the other, in the order that they entered the conference. All participants get to hear the announced names list. The chairperson can end the Roll Call playback at any time by entering the appropriate DTMF code from the endpoint’s input device.
6. When a participant leaves or is disconnected from the conference, participants remaining in the conference hear an audio message, announcing the name of the participant that has left the conference.

Roll Call can be activated during different conference statuses:

- **Conference On Hold**
  A participant who accesses a conference that was placed on hold, has to follow the usual connection process and must record their name. However, when the participant enters the conference on hold, their name is not played to the conference. Only when the conference is reinstated and the on hold state is revoked, the chairperson can request a roll call. The list of played names will then include the participants who connected to the conference while it was on hold.
- **Admittance During a Roll Call**
  When participants join or leave the conference during an on going Roll Call, the corresponding announcement is played immediately, thereby interrupting the on going Roll Call. When the Roll Call is resumed, the name of the participant who left the conference is skipped (not played).
- **No Other Participants Indication**
  When the chairperson asks for a Roll Call and there are no other

participants in the conference at that time, the chairperson will hear only his or her name.

Enabling Roll Call

The Roll Call option is available to all conferences to which a Roll Call-enabled IVR Service is assigned. Roll Call has to be enabled or disabled at the conference level. However, if the Roll Call option is not enabled in the IVR Message Service, it cannot be activated for the conference.

For more details on enabling Roll Call during a conference and a list of Roll Call DTMF options, refer to the MGC Manager User's Guide, Volume I, Chapter 6.

Using SilenceIT

The SilenceIT feature is part of the IVR Service used to automatically mute audio participants who placed their phone lines on hold during an On Going Conference, causing all other conference participants to hear the background music.When the audio participant is muted, an IVR message may be played to the conference, informing the other participants that one of the participants was muted due to a noisy line. When muted participants return to the conference, they hear a message informing them that their line was detected as noisy and muted.

At this point, the participant can press <**9**> to listen to a menu offering one of the following options:

- Return to the conference unmuted (default)
- Return to the conference muted
- Reduce the level of the SilenceIT Sensitivity and return to the conference unmuted
- Disable the SilenceIT feature for this conference and return to the conference unmuted

SilenceIT IVR messages are described in Table 2-11 on page 2-45.

Enabling SilenceIT

SilenceIT is enabled by performing the following steps:

- Enable the SilenceIT option in the IVR Message Service and select the voice messages for this feature. For a detailed description, see "Defining a New IVR Message Service", on page 2-24.

- Optional: Modify the DTMF codes assigned to the SilenceIT options (in the IVR Message Service). For a detailed description, see "Defining a New IVR Message Service", on page 2-24.
- Select the SilenceIT-enabled IVR Message Service in the *Conference Properties – Settings* tab.
- Select the SilenceIT option in the *Conference Properties – Settings* tab. For a description of new conference definition, refer to the MGC Manager User's Guide, Volume I, Chapter 4.

If you select an IVR service that is not SilenceIT-enabled while enabling the SilenceIT option, the conference will be rejected at the end of the definition process when it is saved on the MCU).

SilenceIT guidelines

- SilenceIT is supported for Audio Only participants in IVR-enabled Audio Only and Video conferences.
- SilenceIT is not supported when the participant is moved to the Operator conference (Attended status).
- SilenceIT is not supported in recording ports.
- SilenceIT is not supported in cascading conferences.

DTMF - Enabled Cascading Conferences

The MCU can send several DTMF codes during cascaded conferences, enabling the chairperson to control all the participants in the cascaded conference. During a cascaded conference, the chairperson can perform the following tasks using DTMF codes:

- Set the chairperson as the conference's exclusive speaker while muting all the other conference participants
- Terminate the conference
- Lock or unlock the conference
- Secure a conference and release a secured conference
- Place the conference on-hold

If the chairperson uses any other DTMF codes, only the participants in the chairperson's local conference will be affected. With DTMF-enabled cascading, MCUs can be networked together in two modes:

- MCU Cluster
- MCU Rollover

For more information on these modes, see "Cascading Conferences" on page 1-43.

For a detailed description of H.243 Cascading conferences, see Chapter 5, "H.243 Conferences" on page 5-1.

Ad Hoc Conferencing and External Database Authentication

The MCU can work with an external database application to validate the participant's right to start a new conference or to join an existing conference. The external database contains a list of participants (users), with their assigned parameters. The Numeric ID entered by the participant is compared against the database. If the system finds a match, the participant is granted the permission to start a new conference. In a similar way, the conference Entry password or chairperson password is checked against the database and if a match is found, the participant access to the conference is granted.

To work with an external database application the Entry Queue and IVR Services must be configured to use the external database application for authentication.

For Ad Hoc conferencing, the MCU has to be configured with the Numeric ID routing mode.

For more details about Ad Hoc conferencing, see Chapter 3, "Ad Hoc Conferencing and External Database Authentication".

Audio and Video Conversion Tools

The MGC Manager includes tools that allow you to convert the audio and video files into a format recognizable by the Polycom MCU and to send the converted files to the MCU for storage in the Audio+ card's memory. This step is required in order to use the audio files with the IVR Message Service and the Entry Queue Service.

The conversion process must be performed prior to the definition of the IVR Properties and the IVR Message Service. The conversion process is the same as for AV Message Services used in Greet and Guide conferences.

MGC Manager is shipped with default audio files in English and Spanish in *.wav and MGC internal format (*.aca) that can be used with the existing default IVR and Entry Queue Services, installed with the MCU software. These default audio files can also be used to create new IVR and Entry Queue Services. The conversion of *.wav files is required when you record your own set of voice prompts and messages.

The Audio and Video conversion tools are described in the MGC Administrator's Guide, Chapter 8, "Audio and Video Conversion Tools".

IVR Hardware Requirements

The following hardware is required to set up and manage IVR-enabled conferences:

Audio+ card

The Audio+ card stores the audio messages that are part of the Entry Queue and IVR Services. These messages are played while the participants wait in an IVR queue, or in an Entry Queue. The Audio+ card also enables the usage of DTMF codes.

Music IO card

An I/O card, attached to the rear of the Audio+ module at the MCU's rear panel, is used to play back music or recorded messages from an external device such as a tape or a CD player. The music is played when:

- The conference is placed on hold
- The participant is placed on hold
- The participant is waiting in the Participants Queue for the operator's assistance

This card is optional in the MGC-50/MGC-100, but is embedded in the MGC-25.

MUX/MUX+ card

(Audio only) The video slides are downloaded and stored in the memory of the MUX or MUX+ card. Up to four slides can be stored in the MUX or MUX+ card memory.

Video+ card

This card is required to use the Click&View application from the participants' video endpoints.

For a detailed description of the Click&View application, see the MGC Manager User's Guide, Volume I, Chapter 11.

Defining the IVR Module Properties

The audio messages and prompts played to participants can be recorded in different languages. You can create IVR Message Services and Entry Queue Services for different languages and assign them to different conferences, allowing the participants who connect to the conference to hear the messages in their preferred language. The language settings are per Service and therefore are the same for a given conference; that is, all the participants in the same conference or in the same Entry Queue will hear audio messages and prompts in the selected language (one language only).

The IVR *Properties* function enables you to define the list of languages that will be used in all services. While setting the properties for the new service, you select the language to be used from the list of languages defined in the Properties function. Several IVR Messages can use the same language, but only one language can be selected for an IVR Message Service or an Entry Queue Service.

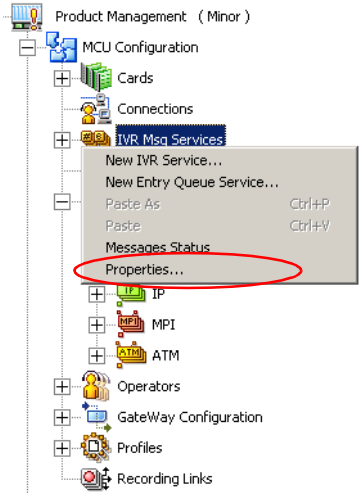
The *Properties* function also enables you to select the audio file to be used for each message type, for each language and download it to the MCU memory.

IVR Properties are defined for both IVR Services and Entry Queue Services.

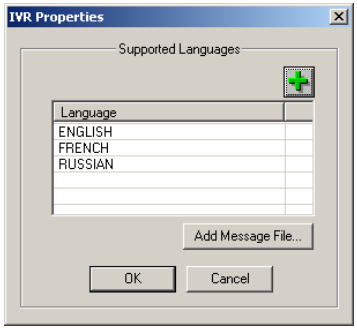
- The audio files must be converted into the MGC internal format (*.aca) before they are downloaded to the MGC unit and defined for the IVR Message Service. For a description of the conversion process, refer to the MGC Manager Administrator's Guide, Chapter 8, "Audio and Video Conversion Tools".
- MGC Manager is shipped with a default IVR Service and a folder that includes all the voice messages that are required for the default IVR Service. If you have installed the default IVR Service during the software installation procedure and do not want to define additional IVR Services or languages, you can skip this section and the section describing the definition of a new IVR Service.

To define the IVR Properties:

1. Connect to the MGC unit (MCU).
2. Expand the *MCU* tree, and then expand the *MCU Configuration* tree.
3. Right-click the *IVR Msg Services* icon, and then click **Properties**.



The *IVR Properties* dialog box opens.



This dialog box lists the currently used languages that were selected from the languages supported by the system.

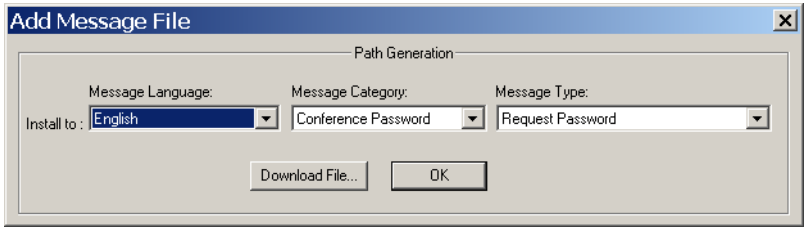
4. To add a new language, click the plus button.

The *Custom Language* dialog box opens.

In the *New Language* field, enter the name of the language to include in the *Supported Languages* list.

The language name cannot include a period (.)

5. Click **OK**.
   The new language is added to the *IVR Properties* dialog box.
6. To download the audio files for the various messages and prompts, in the *IVR Properties* dialog box, click the **Add Message File** button.
   The *Add Message File* dialog box opens.



The audio files are downloaded to the MGC unit one-by-one. In the following steps you select a single *Message Type* (in one of the *Message Categories*) for which the audio file will be downloaded.

- You can download several audio files for each Message Type. Each file is downloaded separately, when the appropriate Language, Message Category and Message Type are selected.
- You can download the required files during the definition of the IVR Message Service. In such a case, you can skip the next steps.

7. From the *Message Language* list, select the language for which the audio file will be downloaded to the MCU. The languages list includes the languages that were defined in the *IVR Properties*.
8. In the *Message Category* list, select the category for which the audio file will be downloaded:
   - *Welcome Message* - Played when the participant connects to the Polycom MGC unit and enters the Entry Queue, IVR-enabled conference or Participants Queue.
   - *Conference Password* - Requests the participant to enter the conference password in order to connect to the conference.
   - *Conference Chairperson* - Requests participants to identify themselves as the conference chairperson and enter the chairperson password.
   - *General* - Played when participants must be notified of system related events, for example, notification that a conference is locked.
   - *Operator Assistance* - Played when the participant requests or is entitled to the operator's assistance.
   - *Roll Call* - Messages related to Roll Call, such as the message requesting that participants state their name for recording.
   - *SilenceIT* - Played when the SilenceIT options are enabled in the definition of the IVR Service that is used for this conference.
   - *Conference ID* - Requests the participant/chairperson to use the required conference ID to connect to the conference.
9. In the *Message Type* list, select the message type for which the downloaded message is to be played:

Table 2-2 lists the Message Types for each category for which files can be downloaded:

Table 2-2: IVR Message Types by Message Category

Message Category	Message Type	Description
Welcome Message	General Welcome Message	The first message played when the participant connects to the MCU/conference/Entry Queue.
	Conference Welcome Message	Played when the participant enters the conference.
Conference Password	Request Password	Requests the participant to enter the password required to connect to the conference.
	Retry Password	A participant who enters an incorrect password is requested to type it again.
	Request Digit	Requests the participant to enter the digit required to connect to the conference.
Conference Chairperson	Chairperson Identifier Request	Requests the participant to enter the chairperson identifier key required to identify them as the conference chairperson.
	Request Chairperson Password	When the participant has been identified as the conference chairperson, requests the participant to enter the chairperson password.
	Chairperson Password Failure Message	When the participant enters an incorrect chairperson password, requests the participant to type it again.
General	Messages played when participants must be notified of system related events, for example, notification that a conference is locked.	

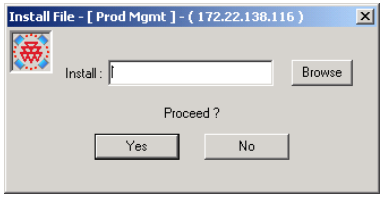
Table 2-2: IVR Message Types by Message Category (Continued)

Message Category	Message Type	Description
Operator Assistance	Operator Assistance Indication Message	The message is played when the participant is waiting for the operator's assistance.
	Disconnection Message	Informs that the participant is being disconnected from the conference.
Roll Call	Roll call related messages, such as the message prompting participants to enter their name, and the message played when a participant joins the conference.	
SilenceIT	SilenceIT Menu	Played to announce the SilenceIT feature options.
	Return to Conference Muted	Indicates which DTMF code the participant must enter to return to the conference muted.
	Unmute Reminder	Indicates which DTMF code the participant must enter to unmute his/her line after returning to the conference muted.
	Unmute and Return to Conference	Indicates which DTMF code the participant must enter to return to the conference unmuted.
	Adjust SilenceIT Sensitivity and Unmute	Indicates which DTMF code the participant must enter to adjust the sensitivity of the SilenceIT algorithm and return to the conference unmuted.
	Disable SilenceIT and Unmute	Indicates which DTMF code the participant must enter to disable the SilenceIT option and return to the conference unmuted.

Table 2-2: IVR Message Types by Message Category (Continued)

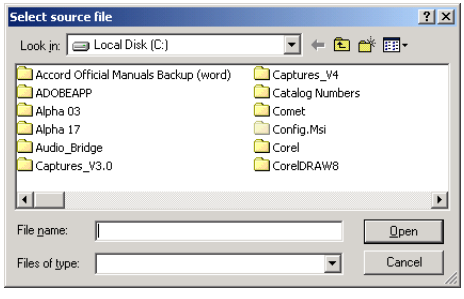
Message Category	Message Type	Description
SilenceIT (cont.)	Participant Detected as Noisy	Informs all participants that the line of a specified participant has been detected as noisy and has been muted.
Conference ID	Requests the participant/chairperson to use the required Conference ID to connect to the conference.	

10. Click **Download File** to download the appropriate audio file to the Polycom MCU memory.
    The *Install File* dialog box opens.



11. Click the **Browse** button to select the audio file (*.aca) to download.

    The *Select Source File* dialog box opens.



12. Select the appropriate audio file of type *.aca using the standard Windows conventions, and then click the **Open** button.
    The name of the selected file appears in the *Install* field in the *Install File* dialog box.

13. In the *Install File* dialog box, click **Yes** to download the file to the MCU memory.
    The system returns to the *Add Message File* dialog box.
14. Repeat steps 10 to 13 for each additional audio message to be downloaded to the MCU for the same message type.
15. Repeat steps 8 to 14 for each additional category and message type for which audio files are to be downloaded.
16. Once all the audio files are downloaded to the MCU, close the *Add Message File* dialog box and return to the *IVR Properties* dialog box.
17. In the *IVR Properties* dialog box, click **OK**.

Setting IVR Message Services

The MGC system is shipped with a default IVR Service and audio files. An IVR Message Service contains the audio message set for the menu-driven scripts and music input from an external device (background music). You can create a new IVR Message Service when you want to customize audio messages and video slides, or when you want to modify the IVR system behavior. For example, a special IVR Message Service can be set for each supported language or for different conference behaviors. Different messages can be created for weekdays and holidays, or special announcements.

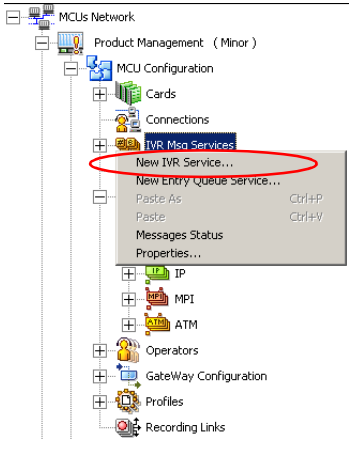
Up to 30 IVR Services can be defined for a single MGC unit.

Defining a New IVR Message Service

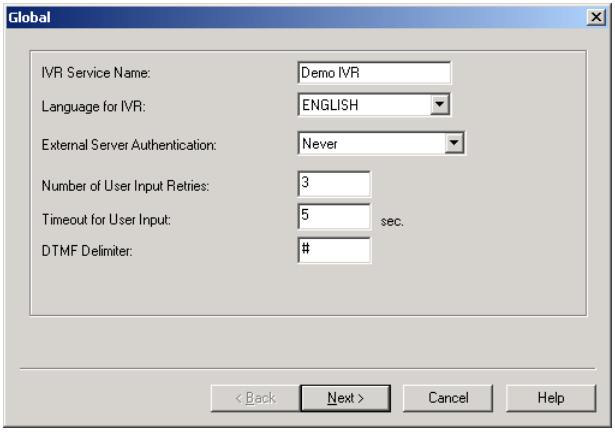
Before you define a new IVR Message Service, ensure that the required audio and video files are prepared and converted into .aca format files; otherwise you will not be able to list or select them during the definition process.

To define a new IVR Message Service:

1. Connect to the MGC unit (MCU).
2. Expand the MCU tree and then expand the *MCU Configuration* tree.
3. Right-click the *IVR Msg Services* icon, and then click **New IVR Service**.



The *Global* dialog box opens where you can define the general parameters of the IVR Service.



4. Define the following parameters:

Table 2-3: IVR Properties - Global

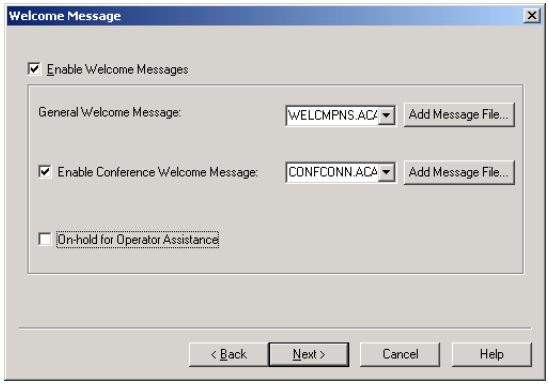
Field/Option	Description
IVR Service Name	(Mandatory) Enter the name of the IVR Message Service.
Language for IVR	Select the language in which the Audio Messages and prompts will be heard. Message languages are defined in the *IVR Properties* dialog box, see "To define the IVR Properties:" on page 2-17.
External Server Authentication	You can configure the IVR service to use an external database application such as Web*Office* or Web*Commander* to verify a participant's right to join the conference. This option is used for Ad Hoc conferencing authentication. Select one of the following options to determine if the system should request authentication from an external server: • ***Never*** – to disable this option. The participant's right to join the conference will not be verified with an external database application.

Table 2-3: IVR Properties - Global (Continued)

Field/Option	Description
External Server Authentication (cont.)	• ***Always*** – Any participant request to join the conference will be validated using an external database application. • ***Upon Request*** – to verify the chairperson password with an external database application. The validation process occurs only when the participant enters the chairperson identifier key (pound or star). All other participants are connected to the conference as standard, undefined participants.
Number of User Input Retries	Enter the number of times the participant will be able to respond to each menu prompt before being disconnected from the IVR system or being moved to the participant's queue for the operator's assistance. The default value is 3. You can define up to 5 retries.
Timeout for User Input	Enter the duration in seconds that the system will wait for the participant's input before announcing an input error. The default value is 5 seconds.
DTMF Delimiter	The interaction between the caller and the system is done via touch-tone signals (DTMF codes). Enter the key that will be used to indicate a DTMF command sent by the participant or the conference chairperson. Possible keys are the pound key (#) or star (*).

5. Click **Next**.

The *Welcome Message* dialog box opens.



6. Select the **Enable Welcome Message** check box to define the system behavior when the participant enters the conference IVR queue:
   - — play a general Welcome message
   - — play a conference-specific message
   - — let the participant wait for the operator's assistance

   If the *Enable Welcome Message* check box is cleared, the Welcome message is skipped and the participant will hear the next prompt in the IVR menu.

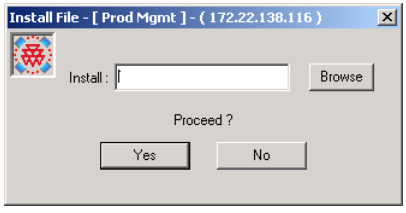
If the IVR Service will be used in conjunction with an Entry Queue Service and the conference is set to Entry Queue Access, forcing participants to go through both queues when connecting to the conference, the participant will hear the Welcome message twice (once via the Entry Queue Service and the second time via the IVR Service). In such a case, you can disable the General Welcome Message in the IVR Service or select None as the Welcome Message.

7. When the IVR Service *Welcome Message* check box is enabled, you can select the various audio messages that will be played when the participant enters the conference IVR queue:

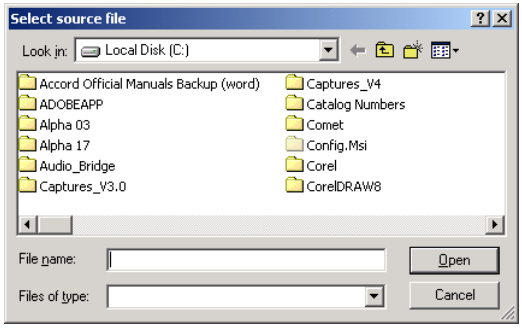
Table 2-4: IVR Properties - Welcome Message

Field/Option	Description
General Welcome Message	• ***None*** — to skip the General Welcome message (for example, if the participant already heard the message in the Entry Queue). • ***Message*** — to be played when the participant first connects to the conferencing service and enters the conference IVR queue without connecting through an Entry Queue. The list includes all the audio files that were downloaded to the MGC unit's memory for this Message type. ***Add Message File*** — If you have not downloaded the audio files prior to the definition of the IVR Service, click the button to download the audio file now. For instructions, see step 8 on page 2-29.
Conference Welcome Message	Select this option to enable a conference-specific message. When cleared, no message is played when the participant enters the conference. If you have enabled the conference-specific message, select the message the participant will hear when connecting to the conference. The list includes all the audio files that were downloaded to the MGC unit's memory for this Message type. If you have not downloaded the audio files prior to the definition of the IVR Service, click the **Add Message File** to download the audio file now. For instructions, see step 8 on page 2-29.
On Hold for Operator Assistance	When you select this option, participants are automatically placed on hold when connecting, and wait for the operator to move them to the destination conference. While on hold, participants hear background music (if this feature is enabled) and view the Welcome slide (in video conferences only). **Note:** Selecting this option results in the *Attended* status, where the operator's assistance is necessary to connect participants to conferences.

8. To download an audio file for an IVR message, click **Add Message File**. The *Install File* dialog box opens.



   a. Click the **Browse** button to select the audio file (*.aca) to download. The *Select Source File* dialog box opens.



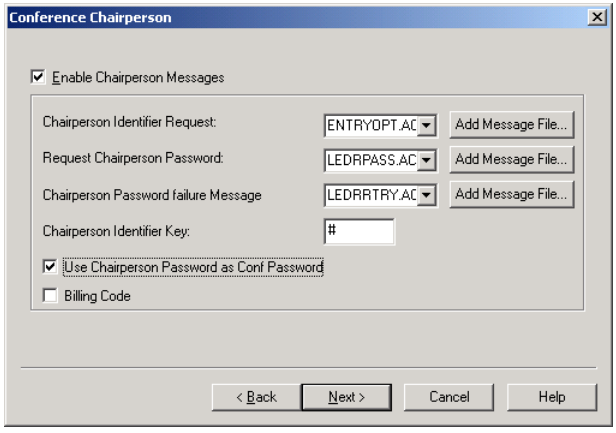
   b. Select the appropriate audio file of type *.aca using the standard Windows conventions, and then click the **Open** button.
   The name of the selected file appears in the *Install* field in the *Install File* dialog box.

   c. In the *Install File* dialog box, click **Yes** to download the file to the MCU memory.
   The *Done* dialog box opens.

   d. Click **OK** to confirm and return to the *Welcome Message* dialog box. The new audio file can now be selected from the list of audio messages.

9. In the *Welcome Message* dialog box, click **Next**.

The *Conference Chairperson* dialog box opens.



10. Select the **Enable Chairperson Messages** check box to enable a participant to connect to the conference as a chairperson, and play the appropriate messages while participants wait in the conference IVR queue. If this feature is disabled, participants will not be able to connect as the chairperson.

You can change the status of any participant to chairperson during an On Going Conference by using the appropriate DTMF code and password.

11. When the **Enable Chairperson Messages** option is enabled, select the various audio messages and prompts that assist the participant in identifying as a chairperson:

If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

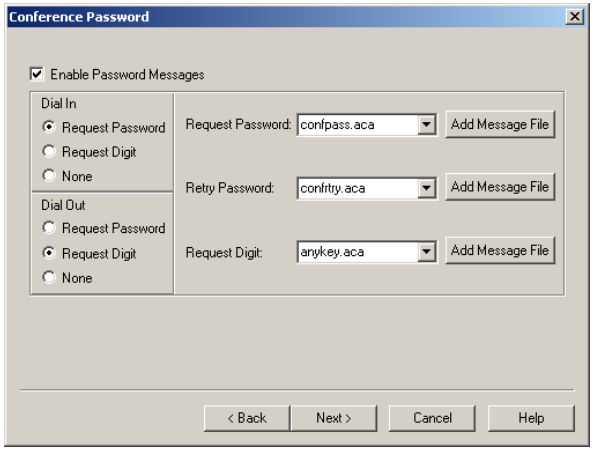
Table 2-5: IVR Properties - Conference Chairperson Options and Messages

Field/Option	Description
Chairperson Identifier Request	Select the audio file that requests the participants to enter the key that identifies them as the conference chairperson.

Table 2-5: IVR Properties - Conference Chairperson Options and Messages

Field/Option	Description
Request Chairperson Password	Select the audio file that prompts the participant for the chairperson password.
Chairperson Password Failure Message	Select the audio file that prompts participants to re-enter the chairperson password if they enter it incorrectly.
Chairperson Identifier Key	Enter the key to be used for identifying the participant as a chairperson. Possible keys are: pound key (#) or star (*).
Use Chairperson Password as Conference Password	Select this option to enable the caller to join to the conference as the chairperson, by using only the chairperson password instead of two passwords: the Conference Entry password and the Chairperson password. **Note:** When this option is enabled, the chairperson password must be different from the conference entry password.
Billing Code	Select this option to enable the chairperson to enter a code for billing purposes.

12. Click **Next**.
    The *Conference Password* dialog box opens.



13. Select the **Enable Password Message** check box to request the conference password before moving the participant from the conference IVR queue to the conference.
14. Select the *Dial In* and *Dial out* options.
    You can configure different IVR Service behavior for password requests for dial-in and dial-out participants.

    When dial-in participants connect to the conference via an Entry Queue, they are requested to enter the conference Numeric ID or password (depending on the MCU configuration) so that the system can route them to the destination conference. Once moved from the Entry Queue to the conference IVR queue, they can be requested to enter the conference entry password and/or the chairperson password. Alternatively, you can configure the IVR Service not to request any password or to request that participants enter any key to confirm their presence.

    When the system connects a dial-out participant to the conference (not via an Entry Queue), in many cases there is no need for the participants to enter the conference password as they have been predefined in the system. However, you may require participants to enter a password or to press any key (digit), to confirm their presence and join the conference.

    Select the required system behavior as follows:

    — **Request password** - The system requests the participant to enter the conference password, and after the correct conference password is provided, moves the participant to the conference.
    — **Request digit identifier** - The system requests the participant to enter a random key, and after any key is pressed, moves the participant to the conference. This option is used mainly for dial-out participants and to prevent an answering machine from entering the conference.
    — **None** - The participant is moved to the conference without any password request.

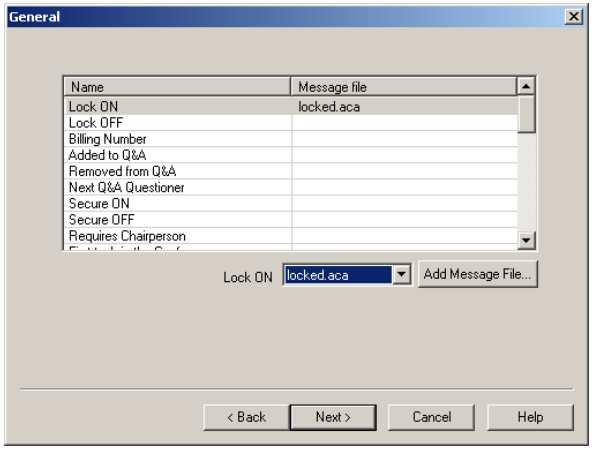
15. If you have enabled the conference password request and defined the system behavior for dial-in and dial-out participants, select the various audio messages that will be played in each case.

If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

Table 2-6: IVR - Conference Password Messages

Option	Description
Request Password	Select the audio file that prompts the participant for the conference password.
Retry Password	Select the audio file that requests the participant to enter the conference password again when failing to enter the correct password.
Request Digit	Select the audio file that prompts the participant to press any key.

16. Click **Next**.
The *General* dialog box opens.



The *General* dialog box lists additional events that can occur before or during a conference. You can assign an audio file to an event, and the

message in the file will be played when the event occurs. If no audio file is assigned to an event, no message will be played when the event occurs.

If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

The following types of messages and prompts can be enabled:

Table 2-7: IVR Properties - General - Voice Messages

Message Type	Description
Lock ON	Indicates that the conference is now locked to unidentified dial-in participants. This message is played to all conference participants.
Lock OFF	Indicates that the conference is now unlocked to dial-in participants. This message is played to all conference participants.
Billing Number	Requests the participant to enter a code for billing purposes.
Added to Q&A	Indicates that a participant was added to the Q&A queue. **Note:** This message is only played to the participant that was added to the Q&A queue.
Removed from Q&A	Indicates that a participant was removed from the Q&A queue. **Note:** This message is played only to the participant that was removed from the Q&A queue.
Next Q&A Questioner	Indicates that a participant is the next questioner. This message is played only to the participant who is the next in line to ask a question, so he or she can get ready.

Table 2-7: IVR Properties - General - Voice Messages (Continued)

Message Type	Description
Secure ON	Indicates that the conference status has changed to *Secure*. This message is played to the conference when the chairperson secures the conference. In this mode, the conference cannot be joined by any new participant or by the operator; the operator cannot monitor participants but can terminate the conference. **Note:** The conference can be secured and unsecured by the chairperson via DTMF codes. For more details, see the MGC Manager User's Guide, Volume I, Chapter 6.
Secure OFF	Indicates that the conference status has reverted from a *Secure* conference to a normal conference. This message is played to the conference when the chairperson cancels the *Secure* mode.
Requires Chairperson	Indicates that a chairperson is required to start the conference. This message is played when participants join the conference before the chairperson. **Note:** This message is played only when the *Start Conference Requires Chairperson* option is selected in the conference *Properties - Settings* dialog box.
First to Join the Conference	Informs that the participant is the first person to join the conference.
Conference Locked	Indicates that the conference is locked. This message is played to participants who attempt to join a locked conference, informing them that they cannot join.
Mute All ON	Indicates that all participants are muted. This message is played to the conference to inform all participants that they are muted, with the exception of the conference speaker. **Note:** This message is played only when the *Mute All Except Me* (Exclusive Speaker) option is activated.

Table 2-7: IVR Properties - General - Voice Messages (Continued)

Message Type	Description
Mute All OFF	Indicates that all participants are unmuted. This message is played to the conference to inform all participants that they are unmuted (when *Mute All Except Me* was deactivated).
Chairperson Exit	Indicates that the chairperson left the conference. This message is played to the conference when the chairperson leaves the conference - this causes the conference to automatically terminate. **Note:** This message is played only when the *Terminate After Chairperson exits* option is selected in the *Conference Properties - Settings* dialog box.
End Time Alert	Indicates that a conference is about to end. This message is only played when the conference is about to end and it cannot be extended. **Note:** This message is played only when the *End Time Alert* option is selected in the *Conference Properties - Settings* dialog box.
Change Passwords Menu	This voice menu is played when the participant requests to change the conference/chairperson password. This message details the steps required to complete the procedure.
Change Conference Password	Requests the participant to enter a new conference password when the participant is attempting to modify the conference password.
Change Chairperson Password	Requests the participant to enter a new chairperson password when the participant is attempting to modify the chairperson password.
Confirm Password Change	Requests the participant to re-enter the new password.
Change Password Failure	A message played when the participant enters an invalid password, usually when that password is already in use.
Change Password Successful	A message played when the conference password was successfully changed.

Table 2-7: IVR Properties - General - Voice Messages (Continued)

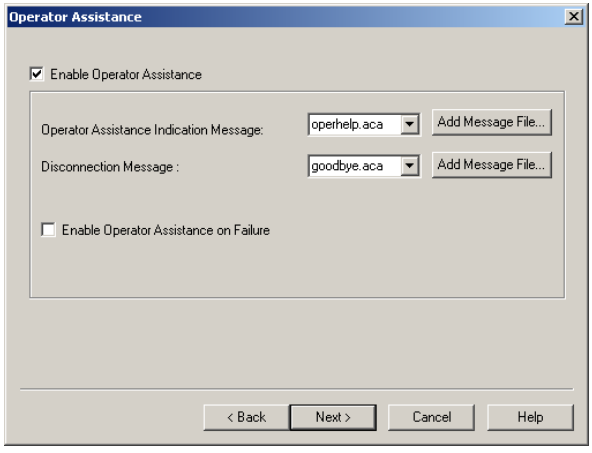
Message Type	Description
Self Mute	A confirmation message that is played when participants request to mute their line.
Self Unmute	A confirmation message that is played when participants request to unmute their line.
Chairperson Help Menu 1	A help menu which is played upon a request from the chairperson, listing the operations (their respective DTMF codes) that can be performed by the chairperson. The playback can be stopped any time. The voice message that can be recorded for one Help file is limited to 30 seconds. You can have two audio files play one after the other as a single menu. The grouping of two audio files into one Help menu can be done for the Chairperson Help menu (and also for the Participant Help menu). If you configure two help menu messages, the two messages are heard in sequence as one menu. *Menu 1* is the first file to be played. **Note:** If you intend to modify the default DTMF codes, the default voice message files for the help menus that are shipped with the system will have to be replaced with new recordings that list the new DTMF codes. The help menus are usually recorded by the conferencing service provider as voice messages and are configured like any other voice message in the system.
Chairperson Help Menu 2	The audio file containing additional DTMF codes that can be used by the chairperson when two help menu messages are recorded for the chairperson operation. This file is played after the file assigned to the Chairperson Help Menu 1.

Table 2-7: IVR Properties - General - Voice Messages (Continued)

Message Type	Description
Participant Help Menu 1	The audio file listing DTMF codes that can be used by the ordinary participant. The voice message that can be recorded for one Help file is limited to 30 seconds. To overcome this limitation you can have two audio files played one after the other as a single menu. *Menu 1* is the first file to be played.
Participant Help Menu 2	The audio file listing additional DTMF codes that can be used by the standard participant when two help menu messages are recorded for the participant operation. This file is played after the file assigned to the Participant Help Menu 1.
Invite Help Menu	The audio file listing DTMF codes available to the participant/chairperson during the Invite session.
Voting Help Menu	The audio file listing DTMF codes available to the participant/chairperson who controls the voting session (depending on the configuration in the DTMF codes dialog box).
Maximum Participants Exceeded	Indicates the participant cannot join the destination conference as the maximum allowed number of participants will be exceeded.
Recording in Progress	Indicates that the conference is currently being recorded.
Recording Failed	Indicates that recording of the conference failed and was cancelled.

17. To assign the appropriate audio file (if one was downloaded) to the message type, click the appropriate table entry.
    The *Message Type* appears at the bottom of the table and the list of message files is enabled.
18. Select the audio file to be assigned to the event.
19. Repeat steps 17 and 18 to select the audio files for all the messages to be played during the conference.

20. Click **Next**.
    The *Operator Assistance* dialog box opens.



21. Select **Enable Operator Assistance** to enable operator assistance when the participant waits in the IVR queue and during the conference.

    The *Operator Assistance* function is enabled.

22. Select the **Enable Operator Assistance on Failure** check box to enable operator assistance when the participant fails to correctly access the conference. When this option is cleared, a participant who failed all password attempts will be automatically disconnected from the conference, after hearing the disconnection message.

23. Select the various audio messages to be played when the participant requests or is waiting for operator's assistance, or when the participant fails to enter the correct conference password:

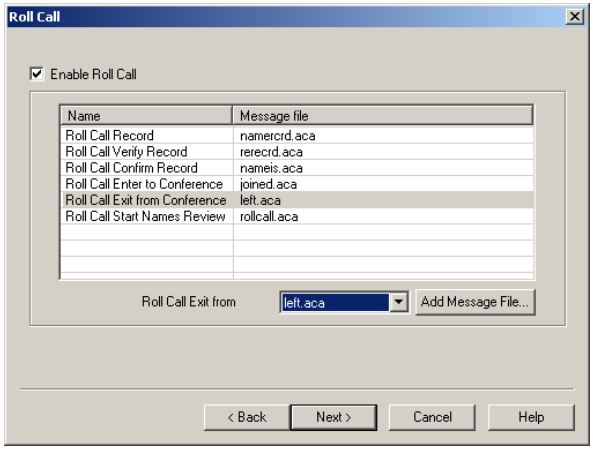
If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

Table 2-8: IVR Properties - Operator Assistance Messages

Field/Option	Description
Operator Assistance Indication Message	Select the audio file to be played to the participant when: • The participant requested help. • The participant entered an incorrect conference password. • The *On Hold for Operator Assistance* option is selected in the *IVR - Welcome Message* dialog box.
Disconnection Message	If the Enable *Operator Assistance on Password Failure* option is disabled, select the audio file to be played when the participant enters an incorrect password and is to be disconnected from the conference.

24. Click **Next**.

    The *Roll Call* dialog box opens.



    The Roll Call feature of the IVR Message Service is used to record the participants' names for playback when the participants join and leave a conference. Participants connecting to the conference are asked to record their name. In addition, the chairperson can request the Roll Call of all connected participants.

25. To enable the Roll Call feature, select the **Enable Roll Call** check box.

26. To assign the audio file to the message type, click the appropriate table entry.
    The Message Type appears at the bottom of the table and the drop-down list displays the names of the audio files stored in the MGC unit memory.

If the Roll Call option is enabled, all its message types must be assigned the appropriate audio files.

27. Select the appropriate audio file:

If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

Table 2-9: Roll Call Voice Messages

Roll Call Message	Description
Roll Call Record	Requests participants to state their name for recording, when they connect to the conference. **Note:** The recording is automatically terminated after two seconds.
Roll Call Verify Record	Verification message added to the playback of the recorded name: "The name you have recorded is …" (here the system plays the name).
Roll Call Confirm Record	Requests the participant to confirm the recorded name or to record the name again. **Note:** This message is optional and is not played to the participant when the appropriate flag in the "system.cfg" is set to NO.
Roll Call Enter to Conference	A voice message added to the playback of the recorded name stating that the participant has joined the conference: "... (here the system plays the recorded name) has joined the conference".
Roll Call Exit from Conference	A voice message added to the playback of the recorded name stating that the participant has left the conference: (here the system plays the recorded name) "…has left the conference".

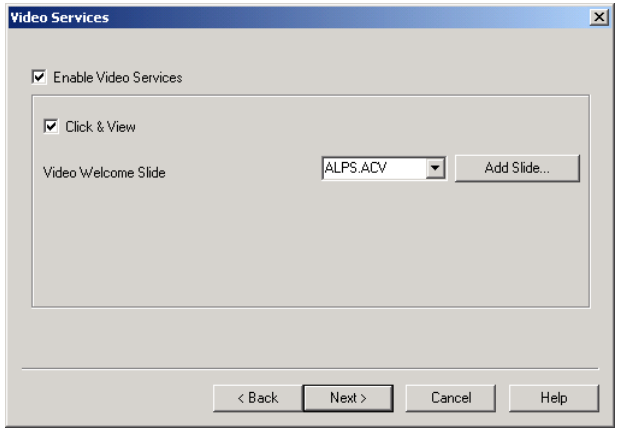
Table 2-9: Roll Call Voice Messages (Continued)

Roll Call Message	Description
Roll Call Start Names Review	Played when Roll Call is requested by the chairperson, introducing the names of the conference participants in the order they joined the conference.
Roll Call End Names Review	Played at the end of Roll Call, to indicate that the listing of participant names is concluded.

28. Click **Next**.

    In *Audio Look&Feel*, the *SilenceIT* dialog box opens (skip to "The *SilenceIT* dialog box opens", in step 31).

    In the Unified mode, the *Video Services* dialog box opens.



29. Select the **Enable Video Services** check box to define a video IVR Service, and to enable the Click&View application.

    Alternatively, if no video services are part of this IVR Service, click **Next** to skip the definition of the *Video Services*.

    For a detailed description of Click&View, see the MGC Manager User's Guide, Volume I, Chapter 11.

30. Define the following parameters:

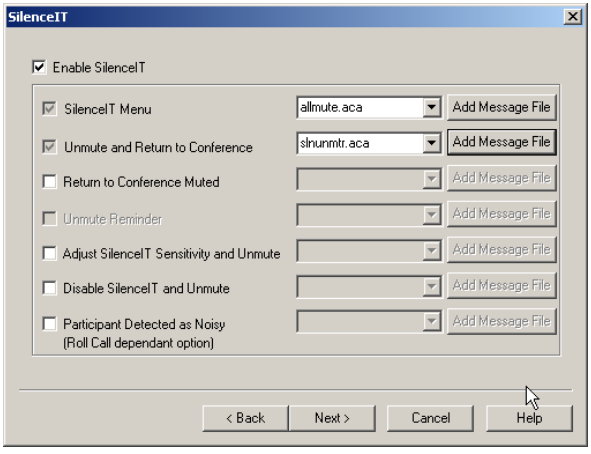
Table 2-10: IVR Properties - Video Services

Video Services	Description
Click&View	Select this option to enable endpoints to run the Click&View application. **Note:** For operation, Click&View requires the Audio+ and Video+ cards and endpoints to be DTMF enabled.
Video Welcome Slide	The Video Welcome Slide appears when an endpoint connects to a conference. Select the video slide file to be displayed when the participant connects to the conference. Select **None** if no Video slide is to be displayed. If the video slide file was not downloaded to the MCU prior to the IVR Service definition, click the **Add Slide** button. The *Install File* dialog box opens. The downloading process is similar to the downloading of audio files, see step 8 on page 2-29. **Note:** Slides can be viewed only if the ENABLE_IP_SLIDE flag has been set to YES in the "system.cfg" file. SIP participants cannot view the slides.

Like audio files, the video slides must be prepared in advance and converted into the MGC internal format. For a detailed description, refer to the MGC Manager Administrator's Guide, "Audio and Video Conversion Tools".

31. Click **Next.**

The *SilenceIT* dialog box opens.



The SilenceIT feature of the IVR Message Service is used to automatically mute the participant lines that were detected as noisy.

32. Select the **Enable SilenceIT** check box to enable the SilenceIT feature.

    The **SilenceIT Menu** and **Unmute and Return to Conference** check boxes become selected, as these messages are mandatory for the SilenceIt feature.

33. Select audio files for the mandatory messages. Select the check boxes of any optional messages you wish to enable, and select the required audio files:

If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

Table 2-11: IVR Properties - SilenceIT Options and Messages

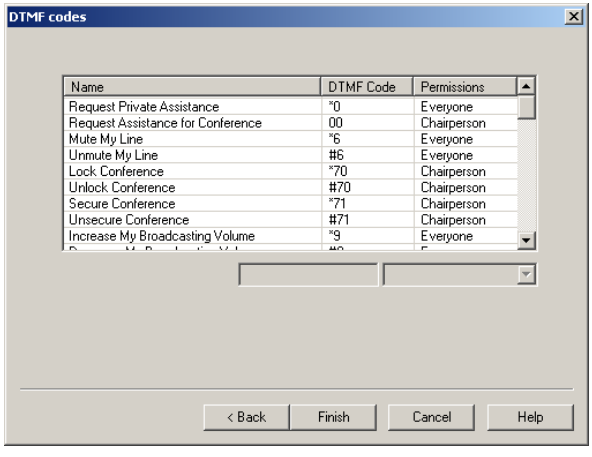
SilenceIT Message	Description
SilenceIT Menu	Played when a participant returns to the conference after having placed the phone line on hold. Notifies participants that the line has been muted and indicates which DTMF code they should enter to listen to the available options. The default voice message is: "Your line has been muted due to a noisy line. For list of available options, press nine." **Note:** This message is mandatory.
Unmute and Return to Conference	Indicates which DTMF code participants should enter to return to the conference unmuted. The default voice message is: "To unmute and return to the conference, press one." **Note:** This message is mandatory.
Adjust SilenceIT Sensitivity and Unmute	(Optional) Indicates which DTMF code to enter to adjust the sensitivity of the SilenceIT algorithm, and then return to the conference unmuted. The noise detection sensitivity remains at the adjusted level until the end of the conference. The default voice message is: "To reduce the noise detection level and return to the conference, press three."
Disable SilenceIT and Unmute	(Optional) A voice message indicating which DTMF code to enter to disable the SilenceIT option, and then return to the conference unmuted. The default voice message is: "To disable noise detection and return to the conference, press four."
Return to the Conference Muted	(Optional) Indicates which DTMF code to enter to return to the conference and remain muted. The default voice message is: "To return to the conference muted, press two."

Table 2-11: IVR Properties - SilenceIT Options and Messages (Continued)

SilenceIT Message	Description
Unmute Reminder	Indicates which DTMF code to enter to unmute the participant's line once they return to the conference muted. This message is played once, as a reminder when the participant has selected to return to the conference muted. The default voice message is: "To unmute your line at any time, press pound, six." **Note:** This message is enabled and mandatory when the *Return to the Conference Muted* check box is selected.
Participant's Line Detected as Noisy	Informs all participants that the line of participant X has been detected as noisy and has been muted. The default voice message is: "...(participant's name) has been automatically muted due to a noisy line." **Note:** This option is available only if the Roll Call option on the *Roll Call* tab is enabled in the same IVR Message Service.

34. Click **Next**.

The *DTMF Codes* dialog box opens.

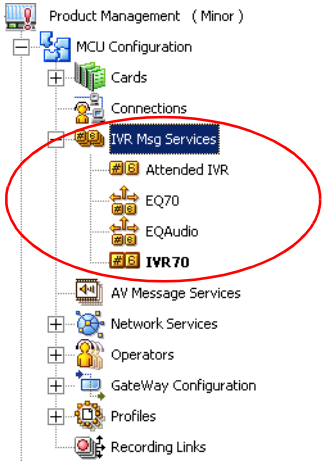


This dialog box lists the default DTMF codes for the various functions that can be performed during the conference by all participants or by the chairperson.
A combination of digits activates a function, for example, ***70** activates the *Lock Conference* feature. For each function, you can modify the DTMF code and the permission. For the list of all actions and their respective default DTMF codes, see the MGC Manager User's Guide, Volume I, Chapter 6, "Using DTMF Codes During Conference". To print the DTMF codes data, see "Printing IVR/DTMF Codes" on page 2-63.

35. Optional. To modify the DTMF code or permission:
    a. In the *Name* field, click the required function.
       The appropriate DTMF code appears in the box below the list.
    b. In the *DTMF Code* (left) field, enter the new code.
       In the *Permission* (right) field, select whether this function can be used by all conference participants or only the chairperson.
36. Click **Finish** to complete the IVR Service definition.
    The new IVR Message Service is added to the *IVR Services* list.

Viewing IVR Message Services

1. Connect to the MGC Unit (MCU).
2. Expand the *MCU* tree, and then expand the *MCU Configuration* tree to view the MCU's Configuration options.
3. Expand the *IVR Msg Services* tree to list the IVR Message Services.



The currently defined IVR Message Services are listed by name.

Click the *IVR Msg Services* icon to list the IVR Message Services and Entry Queue Services in the *Status* pane displaying the service names and their defined language.

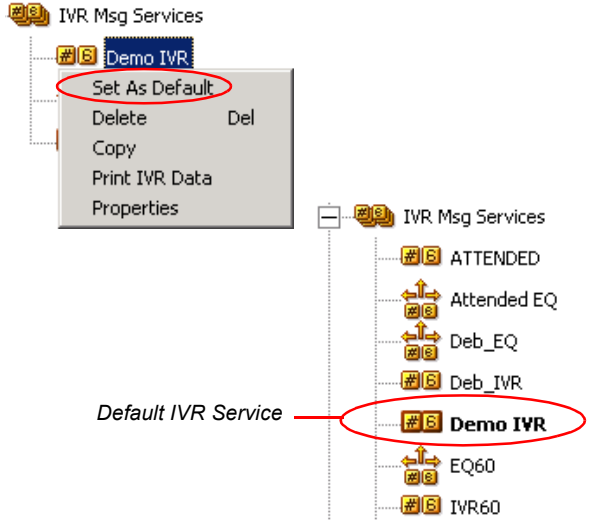
You can double-click an IVR Message Service to view its properties.

Setting an IVR Message Service as the Default Service

The first IVR Service that was defined in the system, is automatically set as the default IVR Service. However, if several services are defined for the MCU, you can choose another service as the default IVR Service. This default IVR Service will be used in conferences where the IVR Service function is enabled but no specific IVR Service was selected.

To select the default IVR Service:

1. List the IVR Services defined in the system.
2. Right-click the icon of the IVR Message Service to set as default, and then click **Set As Default**.



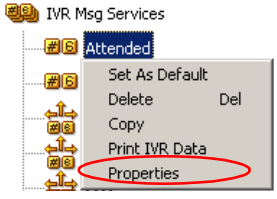
The selected IVR Message Service appears in bold (both name and icon) indicating that it is the current default service.

Modifying IVR Message Service Properties

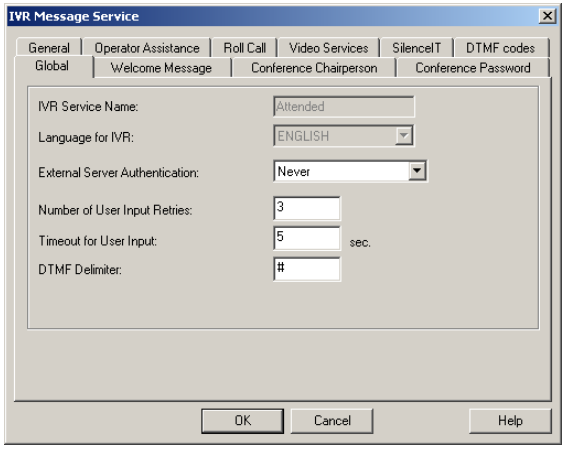
You can change one or several properties of a defined IVR Service.

To modify the properties of an IVR Service:

1. List the IVR Services defined in the system. For details, see “Viewing IVR Message Services” on page 2-48.
2. Right-click the icon of the IVR Message Service to modify, and then click **Properties**. Alternatively, just double-click the IVR Service icon.



The *IVR Message Service* properties dialog box opens.



The tabs and options of this dialog box are described in “Defining a New IVR Message Service” on page 2-24.

3. Modify the required parameters or download the required audio file.
4. Click **OK**.

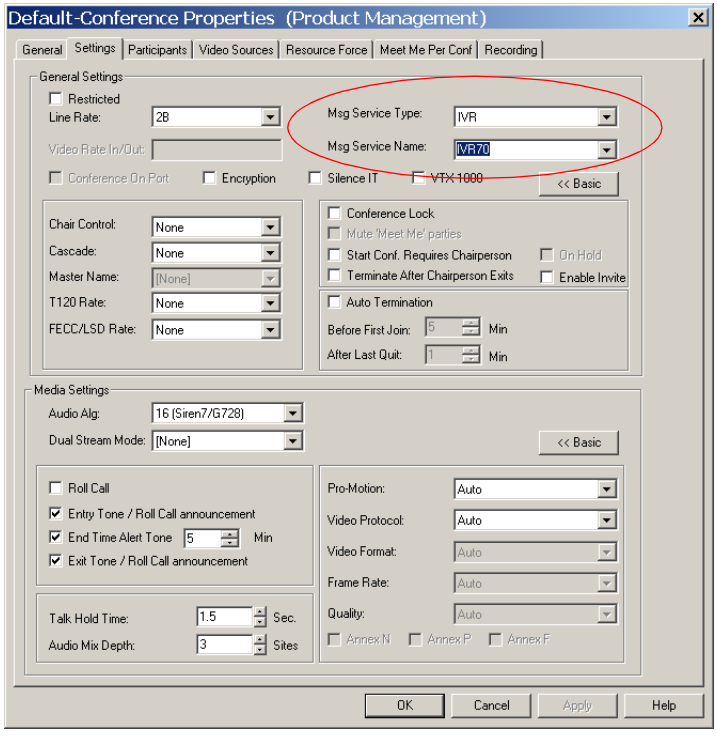
Assigning IVR Services to Conferences

Assigning an IVR Service to a conference enables the participants and the chairperson to perform various operations from their endpoints using the DTMF codes, and also to use the Roll Call feature. You can assign an IVR Service to a conference during the definition of a new On Going Conference, Meeting Room or Reservation.

You cannot disable or change the selected IVR Service during an On Going Conference.

To assign an IVR Service to a video conference:

1. During the definition of a new On Going Conference or a new Reservation, in the *Conference Properties - Settings* dialog box, in the *Msg Service Type* list, select **IVR.**

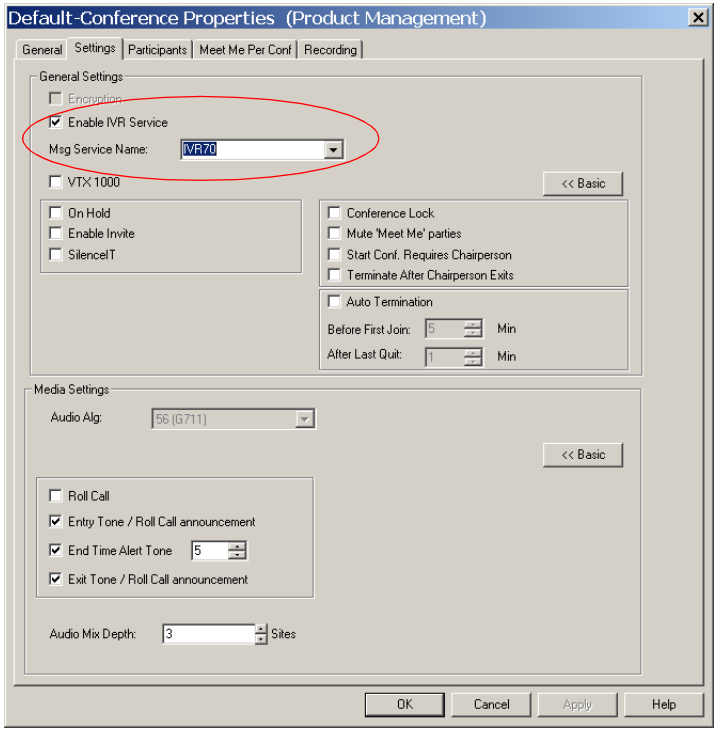


The IVR Service is enabled for this conference.

2. From the *Message Service Name* list, select the name of the IVR Service or leave this field blank if you wish to use a default IVR Service.

To assign an IVR Service to an Audio Only conference:

1. When defining Audio Only conferences, in the *Conference Properties - Settings* dialog box, in the *General Setting*s pane, click the **Enable IVR Service** check box.
2. From the *Message Service Name* list, select the name of the IVR Service or leave this field blank if you wish to use the default IVR Service.

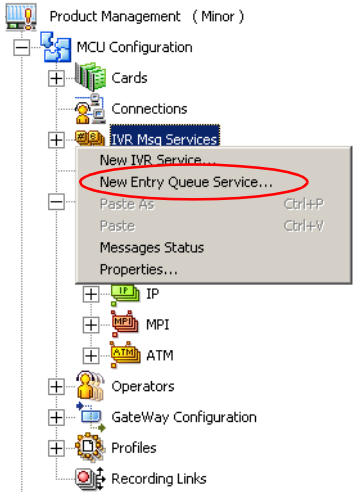


Defining a New Entry Queue Message Service

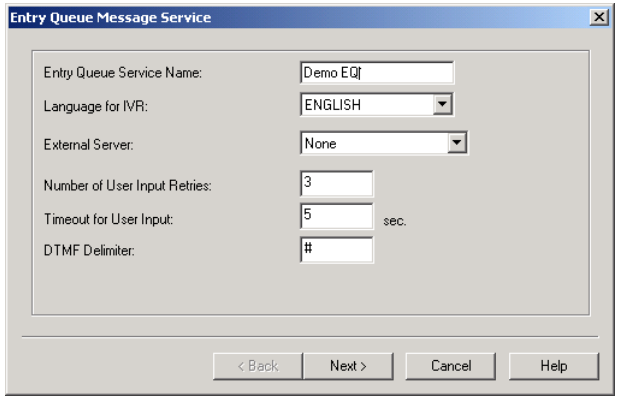
An Entry Queue Message Service is a subset of an IVR Message Service that is used with Entry Queues. It includes a set of voice prompts that are used to guide the caller to the appropriate conference. You can create different Entry Queue Services for different languages and personalized voice messages.

To set up a new Entry Queue Message Service:

1. Connect to the MGC Unit (MCU).
2. Expand the *MCU* tree, and then expand the *MCU Configuration* tree.
3. Right-click the *IVR Services* icon, and then click **New Entry Queue Service**.



The *Entry Queue Message Service* dialog box opens.



This dialog box enables you to define the general parameters of the Entry Queue Service.

4. Fill in the following parameters:

Table 2-12: Entry Queue - Global Parameters

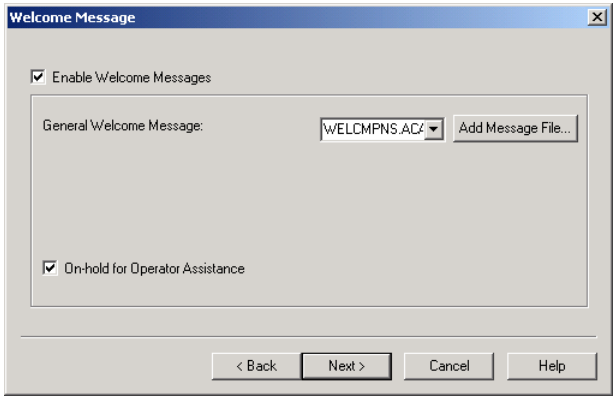
Option	Description
Entry Queue Service Name	(Mandatory) Enter the name of the Entry Queue Service.
Language for IVR	Select the language in which the Audio Messages and prompts will be heard. The languages are defined in the IVR Properties dialog box, see “To define the IVR Properties:” on page 2-17.
External Server	You can configure the Entry Queue to use an external database application to verify the participant’s right to initiate a new conference. This option is used for Ad Hoc conferencing authentication. For a detailed description see Chapter 3, “Ad Hoc Conferencing and External Database Authentication”. Select one of the following options to verify the conference Numeric ID and permission to start a new conference: • **None** to disable this option. • **Conference Numeric ID** to verify the conference Numeric ID with an external database application.

Table 2-12: Entry Queue - Global Parameters (Continued)

Option	Description
Number of User Input Retries	Enter the number of times the participant is able to respond to each menu prompt before the participant is disconnected from the IVR system or waits for the operator's assistance.
Timeout for User Input	Enter the duration in seconds that the system waits for input from the participant before it is considered as an input error.
DTMF Delimiter	The interaction between the caller and the system is done via touch-tone signals (DTMF codes). Enter the key that will be used to indicate a DTMF command sent by the participant or the conference chairperson. Possible keys are the pound key (#) or star (*).

The external server configuration that is defined within the Entry Queue Service, is used for Ad Hoc conferencing. For a detailed description, refer to the MGC Manager User's Guide, Volume II, Chapter 3.

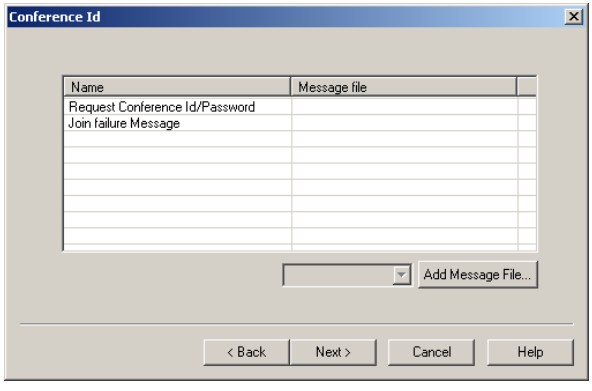
5. Click **Next**.
   The *Welcome Message* dialog box opens.



This dialog box contains a limited set of options that are identical to those defined in the *IVR - Welcome Message* dialog box

If the Entry Queue Service will be used in conjunction with an IVR Service and the conference is set to Entry Queue Access, forcing participants to go through both queues when connecting to the conference, the participant will hear the Welcome message twice (once in the Entry Queue and the second time in the IVR queue). In such a case, you can select the Welcome Message in the Entry Queue Service and disable it in the IVR Service.

6. Define the appropriate parameters. For a description of these parameters, see Table 2-4 on page 2-28.
7. Click **Next**.
   The *Conference ID* dialog box opens.



The following messages and prompts can be played to request the conference Numeric ID or password, depending on the MCU configuration:

Table 2-13: Entry Queue Properties - Conference Id

Field/Option	Description
Request Conference ID/ Password	Prompts the participant for the conference Numeric ID or password, depending on the Entry Queue mode as configured in the "system.cfg" file.
Join Failure Message	When the participant entered an incorrect conference Numeric ID or password, requests the participant to type the Numeric ID or password again.

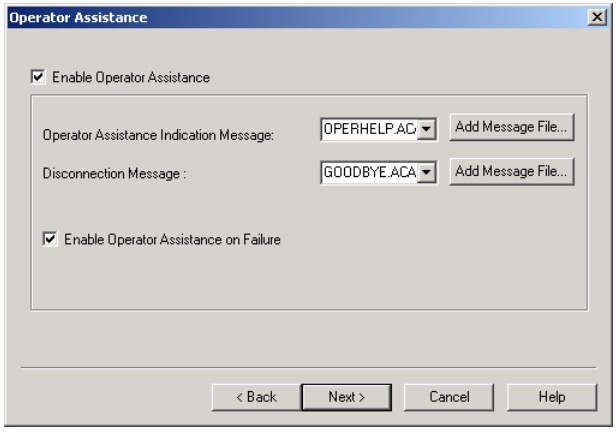
8. Assign an audio file to each message type, as follows:
   a. Click the table entry (Name).

      The message type appears at the bottom of the table and the drop-down list displays the names of the audio files stored in the MGC unit's memory.

   b. Select the appropriate file from the *Message File* list.

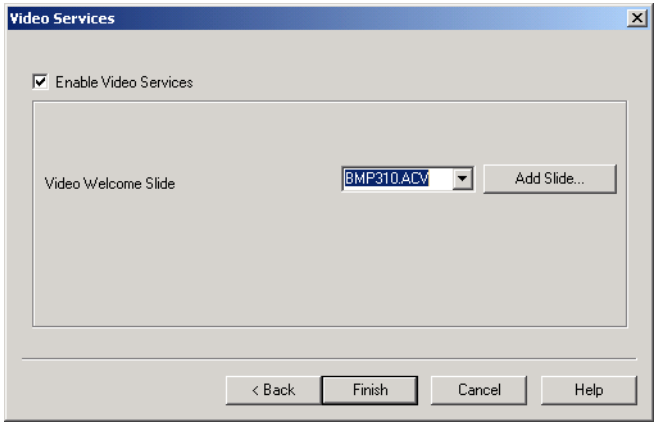
If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page 2-29.

9. Click **Next**.
   The *Operator Assistance* dialog box opens. This dialog box is identical to the *IVR - Operator Assistance* dialog box.



10. Define the appropriate parameters for the new Entry Queue Service, as described in Table 2-8 on page 2-40.
11. Click **Next**.

The *Video Services* dialog box opens.



This dialog box enables you to define the *Video Welcome Slide* for the Entry Queue Service. Video participants connecting to this Entry Queue will see the slide while hearing the audio welcome message.

- To enable H.323 participants to view the Welcome slide, define the "system.cfg" flag in IP MEDIA FLAGS section: ENABLE_IP_SLIDE = YES.
- SIP participants cannot view the Welcome slide.

12. Click **Enable Video Services**.
    The *Video Welcome Slide* option is enabled.
13. In the *Video Welcome Slide* list, select the video slide that will be displayed to participants connecting to the Entry Queue. The slide list includes the video slides that were previously downloaded to the MCU memory. If the list is empty, you can download a new slide now by clicking the **Add Slide** button. The *Install File* dialog box opens. The downloading process is similar to the downloading of audio files, see step 8 on page 2-29.

    Alternatively, select **None** if no video Welcome slide is to be displayed.

The required video slide must first be converted to the Polycom's internal format (*.acv). This process is described in the MGC Administrator's Guide, Chapter 8.

14. Click **Finish** to complete the Entry Queue Service definition.
    The new Entry Queue Service is added to the *IVR Message Services* list.

Connecting to a Conference from an Entry Queue

The IVR Service is assigned to specific conferences. A different IVR Service can be assigned to each conference or the same IVR Service can be used for all conferences. If an IVR Service is assigned to the conference, the caller must respond through the touch-tone keypad to the voice prompts defined in the IVR Service in order to connect to the conference.

When the conference is accessed through an Entry Queue and an IVR Service is assigned to the conference, the connection to the conference is done in two stages. In the first stage, the participants connect to the Entry Queue where they are routed to their destination conference according to the conference Numeric ID or password, depending on the MCU configuration. In the second stage, the participant connection to the conference is done from the IVR queue where participants are requested to enter the conference password and the chairperson password (when relevant).

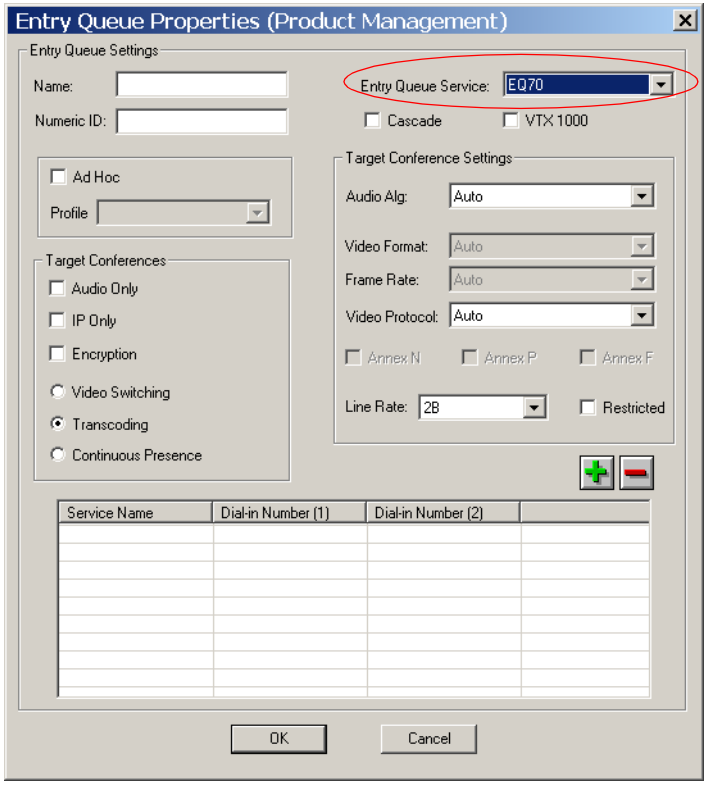
To minimize the number of voice prompts to which the caller has to respond before connecting to the conference, it is recommended to exclude from the IVR Service prompts that are part of the Entry Queue Service, such as the general Welcome message.

Assigning an Entry Queue Service to an Entry Queue

To enable the system to route participants to their conferences according to the conference Numeric ID or password (depending on the MCU configuration), an Entry Queue Service must be assigned to the Entry Queue. Assigning is done during the Entry Queue definition, in the *Entry Queue Properties* dialog box.

To assign the Entry Queue Service to an Entry Queue:

- In the *Entry Queue Properties* dialog box, in the *Entry Queue Service* list, select the Entry Queue Service, or leave this box empty to use the default Entry Queue Service (if one is defined).



You can set either a defined IVR Service or a defined Entry Queue Service as the default *IVR Message Service*, but not both. If an IVR Service is selected as default, you must assign the Entry Queue Service here.

Viewing the Audio Messages Status

The audio files for the messages and voice prompts are sorted and stored in groups according to their duration. There are five duration categories: 2-second, 4-second, 8-second, 16-second and 32-second groups.
The messages are sorted in the Audio+ card of the MCU. The number of messages that can be downloaded to the Audio+ card for each of these groups, is listed in Table 2-14.

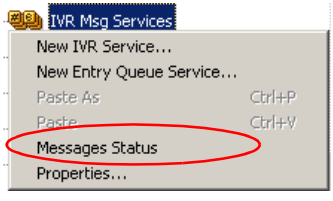
Table 2-14: Default Number Of Messages for Each Duration Category

Message Duration Category	Number of Voice Messages in Group
2-second duration	360
4-second duration	438
8-second duration	172
16-second duration	24
32-second duration	36

You can view the number of audio files that are currently stored on the Audio+ card and the status of the downloading process (if you check the status during the download process).

To view the status of the audio messages:

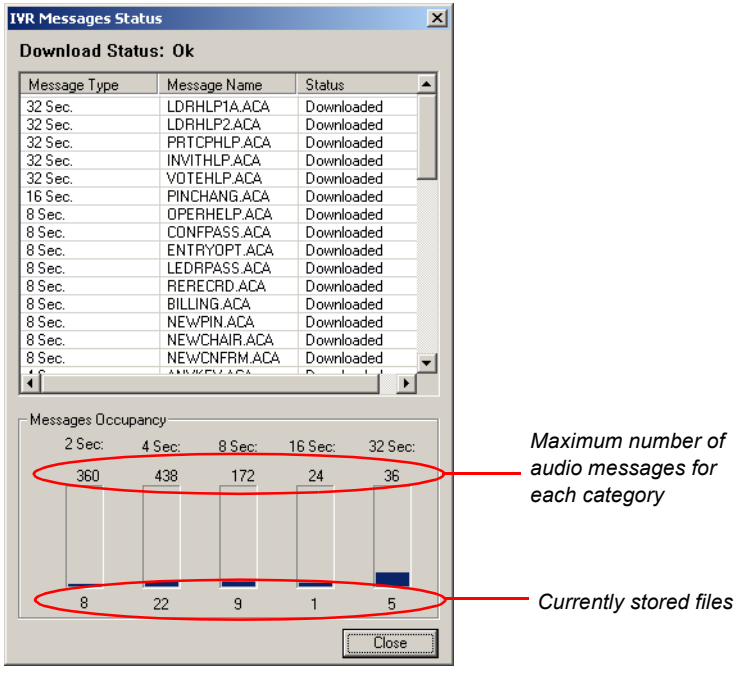
1. Connect to the MGC unit (MCU).
2. Expand the *MCU* tree, and then expand the *MCU Configuration* tree.
3. Right-click the *IVR Msg Services* icon, and then click **Messages Status**.



The *IVR Messages Status* dialog box opens, listing the IVR messages audio files that are currently stored on the Audio+ card, sorted according to their duration. The list also displays the file's name and its download status. The *Messages Occupancy* pane shows:

— The maximum number of audio messages for each category, that can be stored on the Audio+ card, as configured in the "system.cfg" file

— The number of audio files in each duration category that are currently stored on the Audio+ card



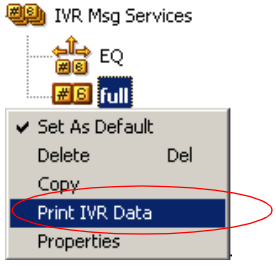
4. Click the **Close** button to exit the dialog box.

Printing IVR/DTMF Codes

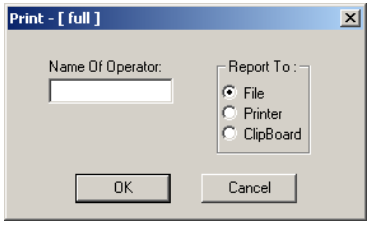
You can print the list of operations and their corresponding DTMF codes defined in the IVR Message Service. Data can be sent to a printer, saved to a file or copied to a clipboard. The printed list includes the operation, the keys that are required to activate the function, and the type of permission for this operation (chairperson only or everyone).

To print the list of DTMF codes:

1. Expand the *IVR Message Services* list.
2. Right-click the icon of the IVR Message Service whose DTMF codes are to be printed, and then click **Print IVR Data**.



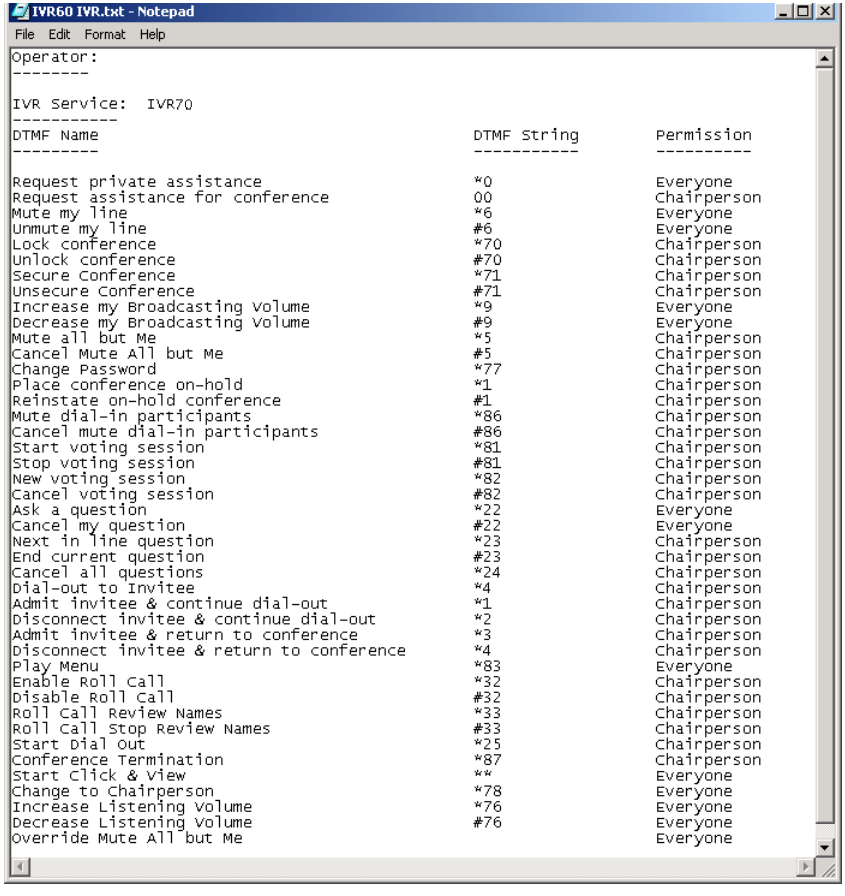
The *Print* dialog box opens.



3. In the *Name Of Operator* field, enter the name of the operator who initiated the report (optional).
4. From the *Report To* options, select the destination to which the codes data is to be sent:
   - **File** - To save the list of DTMF codes to a text file.
   - **Printer** - To print the list of DTMF codes to the default printer.
   - **Clipboard** - To copy the list of DTMF codes to the clipboard for use by other applications.

5. Click **OK**.
   If you select the *Report To - File* option, a browser dialog box opens.
6. Enter the file name, select the destination directory and then click **Save**.

In the sample text file of DTMF codes, the first column lists the function to be performed (the DTMF name), the second column lists the DTMF string to be used, and the third column lists the required permission.


IVR60 IVR.txt - Notepad
File Edit Format Help
Operator:

IVR Service: IVR70

DTMF Name DTMF String Permission
--------- ---------- ----------
Request private assistance *0 Everyone
Request assistance for conference 00 Chairperson
Mute my line *6 Everyone
Unmute my line #6 Everyone
Lock conference *70 Chairperson
Unlock conference #70 Chairperson
Secure Conference *71 Chairperson
Unsecure Conference #71 Chairperson
Increase my Broadcasting Volume *9 Everyone
Decrease my Broadcasting Volume #9 Everyone
Mute all but Me *5 Chairperson
Cancel Mute All but Me #5 Chairperson
Change Password *77 Chairperson
Place conference on-hold *1 Chairperson
Reinstate on-hold conference #1 Chairperson
Mute dial-in participants *86 Chairperson
Cancel mute dial-in participants #86 Chairperson
Start voting session *81 Chairperson
Stop voting session #81 Chairperson
New voting session *82 Chairperson
Cancel voting session #82 Chairperson
Ask a question *22 Everyone
Cancel my question #22 Everyone
Next in line question *23 Chairperson
End current question #23 Chairperson
Cancel all questions *24 Chairperson
Dial-out to Invitee *4 Chairperson
Admit invitee & continue dial-out *1 Chairperson
Disconnect invitee & continue dial-out *2 Chairperson
Admit invitee & return to conference *3 Chairperson
Disconnect invitee & return to conference *4 Chairperson
Play Menu *83 Everyone
Enable Roll Call *32 Chairperson
Disable Roll Call #32 Chairperson
Roll Call Review Names *33 Chairperson
Roll Call Stop Review Names #33 Chairperson
Start Dial Out *25 Chairperson
Conference Termination *87 Chairperson
Start Click & View ** Everyone
Change to Chairperson *78 Everyone
Increase Listening Volume *76 Everyone
Decrease Listening Volume #76 Everyone
Override Mute All but Me Everyone

For a full list of IVR messages and their DTMF codes, see the MGC Manager User's Guide, Volume I, Chapter 6, "Using DTMF Codes during a Conference".

Default IVR Prompts and Messages

The system is shipped with the following audio prompts and messages:

Table 2-15: Default IVR Messages

Message Type	Message Text	File Name
Welcome	"Welcome to VoicePlus Conferencing."	WELCMPNS.ACA
Connecting to conference	"You are now being connected to your conference."	CONFCONN.ACA
Conference password request	"Please enter the conference password. Press the pound key when complete."	CONFPASS.ACA
Conference password failure	"Invalid conference password. Please try again."	CONFRTRY.ACA
Disconnection Msg	"You are now being disconnected from the conference. Goodbye."	GOODBYE.ACA
Operator Assistance	"Please wait. The conference operator will assist you momentarily."	OPERHELP.ACA
NID: Conference ID request	"Please enter your conference ID. Press the pound key when complete."	CNFIDRQS.ACA
NID: Conference ID failure	"Invalid conference ID. Please try again."	CNFIDFL.ACA
Leader: Chairperson identifier request	"For conference Chairperson Services, Press the Pound Key. All other participants please wait..."	ENTRYOPT.ACA
Leader: Chairperson password request	"Please enter the Conference Chairperson Password. Press the pound key when complete."	LEDRPASS.ACA
Leader: Chairperson password failure	"Invalid chairperson password. Please try again."	LEDRRTRY.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
Personal code request	“Please enter your personal code. Press the pound key when complete.”	PINRQST.ACA
Personal code failure	“Invalid personal code.”	PINFAIL.ACA
Press any key	“Press any key to enter the conference.”	ANYKEY.ACA
General: Conference secured	“The conference is now secured.”	SECURED.ACA
General: Conference un-secured	“The conference is now in an unsecured mode.”	UNSECURE.ACA
General: Wait for chairperson	“Please wait for the chairperson to join or start the conference.”	LDRWAIT.ACA
General: First to join	“You are the first person to join the conference.”	FIRST.ACA
General: Mute all but me	“All conference participants are now muted.”	ALLMUTE.ACA
General: Unmute all but me	“All conference participants are now unmuted.”	ALLUNMTE.ACA
General: Chairperson dropped	“The chairperson has left the conference.”	CHAIRDRP.ACA
General: End time alert	“The conference is about to end.”	ENDALERT.ACA
General: Change password menu	“Press one to change conference password. Press two to change chairperson password. Press nine to exit the menu.”	PINCHANG.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
General: Enter new conference password	"Please enter the new conference password. Press the pound key when complete."	NEWPIN.ACA
General: Enter new chairperson password	"Please enter the new chairperson password. Press the pound key when complete."	NEWCHAIR.ACA
General: Re-enter new password	"Please re-enter the new password. Press the pound key when complete."	NEWCNFRM.ACA
General: New password invalid	"The new password is invalid."	NEWINVLD.ACA
General: Successful password change	"The password has been successfully changed."	NEWOK.ACA
General: Conference locked	"The conference is now locked."	LOCKED.ACA
General: Conference is unlocked	"The conference is now unlocked."	UNLOCKED.ACA
General: Destination conference is locked	"The conference you are trying to join is locked."	CUFLOCKD.ACA
General: Billing code request (during On Going Conference)	"Please enter the Billing code. Press the pound key when complete."	BILLING.ACA
General: Self mute indication	"You are now muted."	SELFMUTE.ACA
General: Self unmute indication	"You are no longer muted."	MUTEEND.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
General: Max. number of participants exceeded	"The conference is full. You cannot join at this time."	CNFFULL.ACA
General: "Add me to Q&A queue" confirmation	"Please wait and you will be prompted to ask your question."	QAADD.ACA
General: "Remove me from Q&A queue" confirmation	"You have been removed from the Question and Answer queue."	QAREM.ACA
General: "Next participant in Q&A queue" announcement (grant permission to ask)	"It is now your turn to speak - please ask your question."	QAASK.ACA
General: Recording indication	"The conference is being recorded."	RCRDCONF.ACA
General: Recording failure indication	"The conference recording has failed."	RCRDFAIL.ACA
General: Chairperson Help Menu1	"The available touch-tone keypad actions are as follows: • To exit this menu press any key. • To request private assistance, press star, zero. • To request operator's assistance for the conference, press zero, zero. • To mute your line, press star, six. • To unmute your line, press pound, six."	LDRHP1A.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
General: Chairperson Help Menu2 (continuation)	"The available touch-tone keypad actions are as follows: • To lock the conference to dial-in participants, press star, seven. • To unlock the conference, press pound, seven. • To increase your volume, press star, nine. • To decrease your volume, press pound, nine. • To mute all participants except yourself, press star, five."	LDRHP2.ACA
General: Participant Help Menu	"The available touch-tone keypad actions are as follows: • To exit this menu press any key. • To request private assistance, press star, zero. • To mute your line, press star, six. • To unmute your line, press pound, six. • To increase your volume, press star, nine. • To decrease your volume, press pound, nine. • To ask a question, press star, two, two. • To cancel your question, press pound, two, two."	PRTCHP.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
General: Invite Help menu	"The available touch-tone keypad actions are as follows: • To exit this menu press any key. • To obtain an outside line and dial out to an invitee, press star, four. • To admit an invitee to the conference and invite another participant, press star, one. • To disconnect the invitee and invite another participant, press star, two. • To admit an invitee to the conference and return to the conference, press star, three. • To disconnect the invitee and return to the conference, press star, four."	INVITHP.ACA
General: Voting Help menu	"The available touch-tone keypad actions are as follows: • To exit this menu press any key. • To vote, press star, eight, one. • To end the voting session and get the results, press pound, eight, one. • To start a new voting session, press star, eight, two. • To cancel the voting session, press pound, eight, two."	VOTEHLP.ACA
Roll Call: User name recording request	"After the tone, please state your name."	NAMERCRD.ACA
Roll Call: Playing the recorded name for the user to get confirmation	"The name you have recorded is...(here the system will play the name)"	NAMEIS.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
Roll Call: Name recording confirmation	"Press one to record your name again or remain on the line to enter the conference."	RERECRD.ACA
Roll Call: Participant's entry prompt	"...has joined the conference."	JOINED.ACA
Roll Call: Participant's exit prompt	"...has left the conference."	LEFT.ACA
Roll Call: Introduction to the participant's list	"The conference participants are..."	ROLLCALL.ACA
Roll Call: End of Roll Call list.	"This is the end of the participants list"	LISTEND.ACA
SilenceIT: Adjust SilenceIT sensitivity and unmute	"To reduce the noise detection level and return to the conference, press three."	SLNRDRT.ACA
SilenceIT: Disable and unmute	"To disable noise detection and return to the conference, press four."	SLNDNDRT.ACA
SilenceIT: SilenceIT menu	"Your line is muted due to a noisy line. For available options, press nine."	SLNMUTE.ACA
SilenceIT: Return to the conference muted	To return to the conference muted, press two."	SLNRTMUT.ACA
SilenceIT: Unmute and return to the conference	To unmute and return to the conference, press one."	SLNUNMTR.ACA
SilenceIT: Unmute reminder	To unmute your line at any time, press pound, six."	SLNUNMUT.ACA

Table 2-15: Default IVR Messages (Continued)

Message Type	Message Text	File Name
SilenceIT: Participant line detected as noisy	“ ... line is muted due to a noisy line.”	PARTDET.ACA

3

Ad Hoc Conferencing and External Database Authentication

An Ad Hoc conference is a conference that is started instantly, without a reservation or conference definition. The Ad Hoc conference parameters are based on a Profile that is stored on the MCU and is linked to the Entry Queue. A Profile is a set of parameters for a conference (similar to a template) that is used to define the Ad Hoc conference parameters. As opposed to Meeting Rooms, that are individual predefined conferences saved on the MCU, Ad Hoc conferences use one Profile to start many conferences. Once an Ad Hoc conference is started it becomes an On Going Conference, and it is monitored and controlled as any standard On Going Conference. The procedure for joining an Ad Hoc conference is the same as joining any other conference.

An external database application can be used for authentication. The authentication can be done at the Entry Queue level or at the conference level. At the Entry Queue level, the MCU queries the external database server whether the participant has the right to create a new conference. At the conference level the MCU verifies whether the participant can access the conference and if the participant is the conference chairperson.

Ad Hoc conferences require the use of an Audio+ board, combined with the Entry Queue and IVR.

Most of this chapter describes Ad Hoc conferences that are initiated via an Entry Queue. SIP endpoints can initiate Ad Hoc conferences using SIP Factories. Ad Hoc conferencing using SIP Factories is described in the last section of this chapter.

Requirements for Ad Hoc Conferencing

Before a participant can initiate an Ad Hoc conference, the following components must be defined:

- **Profiles**

  A Profile is a set of parameters for a conference (similar to a template), which is used to define the Ad Hoc conference parameters. Profiles are stored on the MCU's hard disk and can only be accessed by an operator with Superuser permission.

- **Entry Queue Service with Conference Numeric ID support**

  From version 6.0 on, each conference is assigned a unique conference ID. The Entry Queue Service is configured to prompt for the conference Numeric ID. This ID is used to route participants to their destination conferences.

  In Ad Hoc conferencing, the Numeric ID is used to check whether the destination conference is already defined or running on the MCU and if not, to verify whether the user has the right to start a new conference.

  If an external database application is used to verify the participant's right to start a new conference, the Entry Queue Service must be configured accordingly.

- **Ad Hoc-enabled Entry Queue**

  To initiate an Ad Hoc conference, Ad Hoc conferencing must be enabled in the Entry Queue and a Profile must be assigned to the Entry Queue. In addition, an Entry Queue Service supporting conference Numeric ID and External database authentication (if applicable) must be assigned to the Entry Queue.

- **External Database Application** - Optional

  The MCU can work with an external database application to validate the participant's right to start a new conference or to join an existing conference. The external database must contain a list of participants, with their assigned parameters. The Numeric ID entered by the participant is compared against the database. If the system finds a match, the participant is granted the right to create a new conference. In a similar way, the conference Entry password or chairperson password is checked against the database, and if a match is detected, the participant is granted access to the conference.

To work with an external database application the Entry Queue Service and IVR Services must be configured to use the external database application for authentication. For more information about configuring IVR Services, see "IVR Service with Access to the External Database Application" on page 3-27.

Ad Hoc Conferencing and Conference Access Authentication Scenarios

There are several Ad Hoc conferencing and conference access authentication scenarios in which the MCU sends queries to an external database application for authentication. In all these scenarios, the Entry Queue is configured to enable Ad Hoc conferencing with the conference parameters defined in a Profile assigned to it. The Entry Queue Service assigned to the Ad Hoc-enabled Entry Queue is configured to prompt for the conference Numeric ID, and if required, access the External Database application for authentication.

Conference access authentication can be part of the Ad Hoc conferencing flow where the participants must be authorized before they can enter the conference, or independent of Ad Hoc conferencing where the participant does not need to be authorized in order to enter the conference. This second mode is usually used for an organization's internal Ad Hoc conferencing.

When Ad Hoc conferencing for conference creation is the first stage in the flow, the Entry Queue is configured to Ad Hoc conferencing with the conference parameters defined in a Profile assigned to it. The Entry Queue Service assigned to the Ad Hoc-enabled Entry Queue is usually configured to access the External Database application for conference creation authentication.

In the external database application, you must define all users with rights to start a new conference using Ad Hoc conferencing. For each user defined in the database, you enter the conference Numeric ID, Conference Entry Password and Chairperson Password (when applicable), billing code, Conference general information (corresponding to the User Defined 1 field in the Profile properties), user's PIN code, and his/her VIP status.

The same user definitions can be used for conference access authentication, that is, to determine who can join the conference as a participant and who as a chairperson.

Ad Hoc conferencing is available in two modes:

- Ad Hoc Conferencing without Authentication

  Any participant can dial into an Entry Queue and initiate a new conference if the conference does not exist. This mode is usually used for the organization's internal Ad Hoc conferencing.

- Ad Hoc conferencing with external database authentication

  In this mode, the participant's right to start a new conference and the participant's right to join an On Going conference are validated against a database.

The authentication mechanism is available in two levels: Entry Queue and conference, enabling various scenarios depending on the system configuration. The Entry Queue level authentication is only applicable to Ad Hoc Conferencing, and determines the user's right to initiate a conference with a specific Numeric ID. The conference level authentication determines the participant's authorization to join a conference, and can be part of the Ad Hoc conferencing flow or used independently of Ad Hoc conferencing, for pre-defined conferences.

The following scenarios describe Entry Queue and conference level authentication:

- *Entry Queue level → Conference initiation → Numeric ID validation with an External Database application*

  The participant dials in to the Entry Queue and is prompted for the conference numeric ID. The MCU is configured to work with an external database application to validate the participant's right to start a new conference. The Numeric ID entered by the participant is compared against the database that contains a list of participants (users) and if a match is found, the participant is granted the right to start a new conference based on the Profile assigned to the Entry Queue.

- *Conference Access → Conference Password validation with an External Database application*

  Once the participant is moved from the Entry Queue to the conference, the participant request to join the conference is validated against the database. In such a case, the IVR Service assigned to the conference is configured to validate each of the participants attempting to join the conference with the external database. If a match is found, the participant is granted the right to join the conference. The participant may also be

requested to enter the chairperson password, however, this password is not validated with the external database application; only against the conference parameters.

- *Conference level → Conference Access → Chairperson Password validation with an External Database application*

  In this scenario, only participants requesting to join the conference as chairpersons are validated against the external database. The IVR Service is configured to validate the participant request to enter the conference as a chairperson only when the participant enters the chairperson identifier key (# pound or * star keys). If a match is found, the participant is granted the right to join the conference as chairperson. All other participants join the conference as standard participants.

Ad Hoc Conferencing without External Database Authentication

A participant dials in to an Ad Hoc-enabled Entry Queue and starts a new conference based on the Profile assigned to the Entry Queue. In this configuration, any participant connecting to the Entry Queue can start a new conference, and no security mechanism is applied. This mode is usually used in organizations where Ad Hoc conferences are started from within the network and without security breach.

Starting a conference uses the following method:

1. The participant dials in to an Ad Hoc-enabled Entry Queue.
2. The Conference Numeric ID is requested by the system.
3. The participant inputs a Numeric ID via his/her endpoint remote control using DTMF codes.
4. The MCU checks whether a conference with the same Numeric ID is running on the MCU. If there is such a conference, the participant is moved to that conference. If there is no On Going conference with that Numeric ID, the system creates a new conference, based on the Profile

assigned to the Entry Queue, and connects this participant as the conference chairperson.

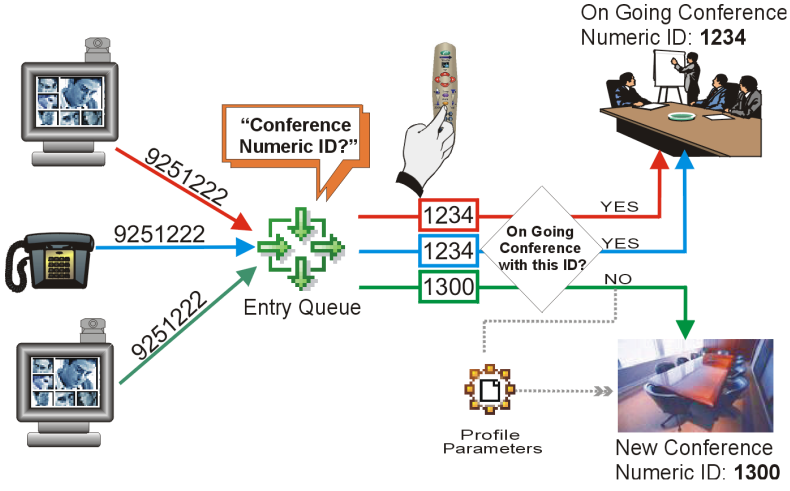


Figure 3-1: Conference Initiation without Authentication

To enable this workflow, the following components must be defined in the system:

- A conference Profile containing the conference parameters
- An Entry Queue Service with the appropriate Numeric ID Request messages
- An Ad Hoc-enabled Entry Queue with an assigned Profile

Entry Queue level - Conference initiation - Numeric ID validation with an External Database application

To increase the system security and ensure that only authorized participants/callers can start a new conference, an external database application is used for authentication.

Initiating a conference uses the following method:

1. The participant dials in to an Ad Hoc-enabled Entry Queue.
2. The participant is requested to enter the conference Numeric ID.
3. The participant enters the conference Numeric ID via his/her endpoint remote control or telephone using DTMF codes. If there is an On Going conference with this numeric ID, the participant is moved to that conference where another authentication process can occur, depending on the IVR Service configuration.
4. If there is no On Going conference with that numeric ID, the MCU verifies the Numeric ID with the database application that compares it against its database. If the database application finds a match, the participant is granted the right to create a new conference.
5. If this Numeric ID is not registered in the database, the conference cannot be started and this participant is disconnected from the Entry Queue.
6. The external database contains a list of participants (users), with their assigned parameters. Once a participant is identified in the database, his/her parameters (as defined in the database) can be sent to the MCU. These parameters are:
   - Conference Name
   - Conference Billing code
   - Conference Password
   - Chairperson Password
   - Conference Information, such as the contact person name. These fields correspond to the User Defined 1, 2 and 3 fields in the *Conference Properties* dialog box.
   - Maximum number of participants allowed for the conference

— Minimum number of participants for which resources should be saved

— Conference Owner

These parameters may also be defined in the conference Profile, and if they are not sent from the external database to the MCU, they will be taken from the Profile.

7. A new conference is started based on the Profile assigned to the Entry Queue. The parameters sent from the database overwrite these parameters in the Profile.
8. The participant is moved to the conference. If no IVR Service is assigned to the conference or if no password request is configured in the IVR Service assigned to the conference, the participant that initiated the conference is directly connected to the conference as its chairperson.
9. If the IVR Service assigned to the conference is configured to prompt for the conference entry password and chairperson password, without external database authentication, the participant has to enter these passwords in order to join the conference.

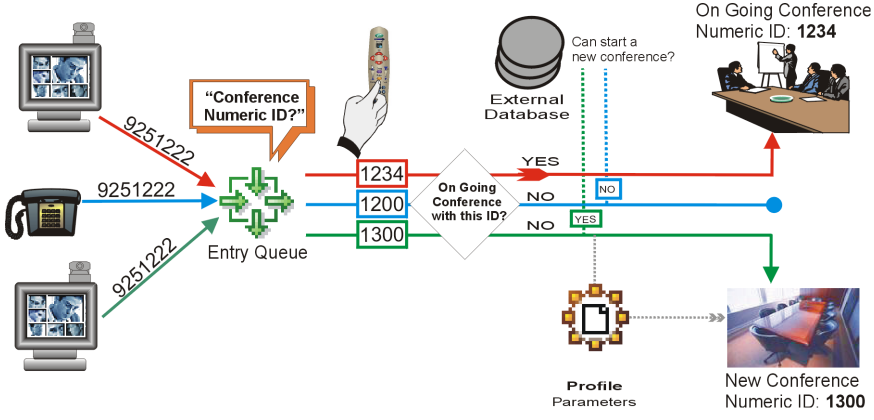


Figure 3-2: Conference Initiation Validation with External Database Application

To enable this workflow, the following components must be defined in the system:

- A conference Profile with the conference properties.

- An Entry Queue Service configured with the appropriate Numeric ID Request messages and with enabled access to the external database for authentication.
- An Ad Hoc-enabled Entry Queue with an assigned Profile.
- An external database application with a database containing Numeric Conference IDs associated with participants and their relevant properties.
- The MCU must be configured to access the external database. For more information, see "MCU Configuration to Access the External Database Application" on page 3-20.

Conference level - Conference Access - Conference Password validation with an External Database Application

An additional security measure may be added to the Ad Hoc conference initiation by verifying the conference entry password with the external database. In this case, only participants with the appropriate passwords will be able to connect to the conference.

Initiating a conference uses the following method:

- The procedure starts with steps 1 to 7 of the Ad Hoc *Entry Queue level - Conference initiation - Numeric ID validation with an External Database application* flow.
- In this flow, the Conference Entry Password and the Chairperson password are returned from the database application to the MCU and override these parameters in the Conference Profile.
- When the Ad Hoc conference is started, the participant who initiated this conference and all participants subsequently requesting to join the conference are moved to the conference's IVR Queue where they are prompted to enter the conference password.
- When the participant enters the conference password or his/her personal password, it is sent to the external database application for validation.
  - If the password is incorrect, and the Operator's Assistance option is enabled, the participant is moved to the Participants Queue for assistance. If there is no active Operator conference running on the system, the participant is disconnected from the MCU.

- If there is a match, the participant is granted the right to join the conference. In addition, the external database application sends to the MCU the following parameters:
  - Participant name (visual name)
  - Whether or not the participant is the conference chairperson
  - Whether or not the participant state is VIP
  - Participant Information, such as the participant E-mail. These fields correspond to the User Defined 1, 2, 3 and 4 fields in the participant Properties dialog box.
- If the IVR Service is configured to prompt for the chairperson identifier and password, the participant is requested to enter the chairperson identifier.
  - If no identifier is entered, the participant connects as a standard, undefined participant.
- If the chairperson identifier is entered, the participant is requested to enter the chairperson password. In this flow, the chairperson password is not validated with the external database application, only with the MCU.
  - If the correct chairperson password is entered, the participant is connected to the conference as its chairperson.
  - If the wrong password is entered, and the Operator's Assistance option is enabled, the participant is moved to the Participants Queue for assistance. If there is no active Operator conference running on the MCU, the participant cannot be assisted and he/she cannot be connected to the conference.

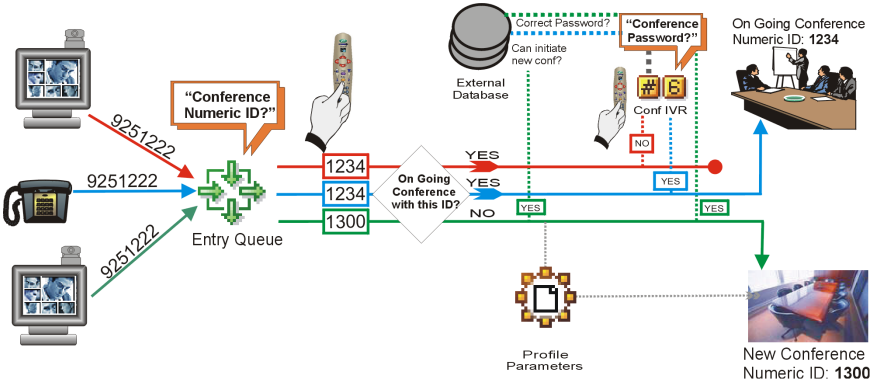


Figure 3-3: Conference Access - Conference Entry Password validation with External Database Application

To enable this workflow, the same components as for the Ad Hoc *Entry Queue level - Conference initiation - Numeric ID validation with an External Database application* flow must be defined in the system with the following additions:

- The external database must hold the Conference Entry Password or the participant personal password/PIN code or the participant's CLI number or Alias.
- The IVR Service assigned to the destination conference (defined in the Profile used for the Ad Hoc Conferencing) must be configured to check the external database for the Conference Entry Password for each participant connecting to the conference.
- The IVR Service must be configured to prompt for the Conference Entry Password.

Conference level - Conference Access - Chairperson Password validation with an External Database Application

An alternative validation method at the conference level is checking only the chairperson password with the external database. All other participants may be checked only with the MCU (if the IVR Service is configured to prompt for the conference password) or not checked at all (if the IVR Service is configured to prompt only for the chairperson password).

Initiating a conference uses the following method:

- The procedure starts with steps 1 to 7 of the Ad Hoc *Entry Queue level - Conference initiation - Numeric ID validation with an External Database application* flow.
- In this flow, the Conference Entry Password and the Chairperson password are returned from the database application to the MCU and override these parameters in the Conference Profile.
- When the Ad Hoc conference is started, the participant who initiated this conference and all participants subsequently requesting to join the conference are moved to the conference's IVR Queue.
- If the IVR Service is configured to prompt for the Conference Entry password, the participant is requested to enter the conference password. In this flow, the conference password is not validated with the external database application, only with the MCU.
  - If the wrong password is entered, and the Operator's Assistance option is enable, the participant is moved to the Participants Queue for assistance. If there is no active Operator conference running on the system, the participant is disconnected from the MCU.
- If the correct conference password is entered, the participant is prompted to enter the chairperson identifier.
  - If no identifier is entered, the participant is connected to the conference as a standard participant.
- If the chair person identifier is entered, the participant is prompted to enter the chairperson password.
- When the participant enters the chairperson password or his/her personal password, it is sent to the external database application for validation.
  - If the password is incorrect, and the Operator's Assistance option is enabled, the participant is moved to the Participants Queue for assistance. If there is no active Operator conference running on the system, the participant is disconnected from the MCU.
- If there is a match, the participant is granted the right to join the conference. In addition, the external database application sends to the MCU the following parameters:
  - Participant name (visual name)
  - Whether or not the participant is the conference chairperson

— Whether or not the participant state is VIP

— Participant Information, such as the participant email. These fields correspond to the User Defined 1, 2, 3 and 4 fields in the participant Properties dialog box.

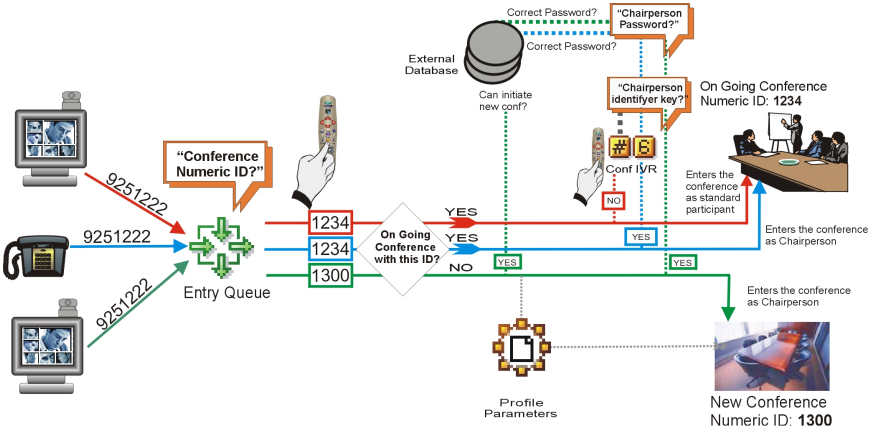


Figure 3-4: Conference Access - Chairperson Password validation with external database application

To enable this workflow, the same components as for the *Entry Queue level - Conference initiation - Numeric ID validation with an External Database application* flow must be defined in the system with the following additions:

- The external database must hold the Chairperson Password or the participant's CLI number or Alias.
- The IVR Service assigned to the destination conference (defined in the Profile used for the Ad Hoc Conferencing) must be configured to check the external database for the Chairperson password only when the participant enters the chairperson identifier key (either pound or star).
- The IVR Service must be configured to prompt for the chairperson identifier key and password.

Initiating and Connecting to Ad Hoc Conferences

A participant can start and connect to Ad Hoc conferences from the following types of endpoints:

- Telephone/Video ISDN endpoint
- Telephone/Video H.323/Video SIP endpoint
- Via the WebOffice application

Telephone/Video ISDN participant: The participant dials the Entry Queue dial-in number and then, via DTMF codes, enters the Numeric ID of the destination conference. If the conference does not exist on the MCU, it is initiated according to the Profile assigned to the Entry Queue.

Telephone/Video H.323 participant/Video SIP participant: The H.323 participant enters the dialing string of the Entry Queue. The dialing string is composed of the Network Service Prefix and Entry Queue's Numeric ID or Entry Queue name. The SIP participant enters the URI of the Entry Queue in the format <Entry Queue name>@<domain name>.
Once in the Entry Queue, the participant enters the Numeric ID of the destination (target) conference. If the conference does not exist on the MCU, it is initiated according to the Profile assigned to the Entry Queue.

WebOffice Participant: The participant initiates an Audio or Video conference from the WebOffice Meeting Manager or WebOffice Meeting Client. Each participant may be assigned a unique password by the WebOffice Server. When the participant dials in to connect to the audio or video conference initiated by the WebOffice, the MCU checks the participant password with the WebOffice database application, which in turn sends a confirmation together with the participant name.

Additional Participant Definitions for Ad Hoc Conferencing

The Profiles can contain participant definitions used mainly to define recording ports and links between cascading conferences. These participants should be defined in the Profile if they are used on regular basis.

Ad Hoc + Recording Port: The recording port is defined in the Profile (in the Participants tab) in the same way as it is defined in a standard conference.

Using the same Profile for all Ad Hoc conferences will result with the same recording port (and account) for all conferences based on that Profile.

Ad Hoc + Cascading Link: The link between the Ad Hoc conference and another conference (such as a Meeting Room) is defined in the Profile in the same way as it is defined in a standard conference. The reserved Meet Me Per Conference or the Meeting Room contains a dial-in participant (as the link from the Ad Hoc conference) and is configured to direct access (No Entry Queue Access selected); no IVR Service is assigned to it.

Ad Hoc Auto Cascading

The Auto Cascade feature enables automatic cascading of Ad Hoc conferences over multiple MCUs. The automatic cascading of conferences is beneficial in distributed MCU environment, when MCUs are installed in different locations. In Auto Cascading, conferences with the same Conference Numeric ID are automatically cascaded.

Both audio only and video conferences can be cascaded. A maximum of six conferences can be Auto Cascaded into one conference. The MCU network can support multiple Auto Cascaded conferences simultaneously.

The cascading is performed by an Ad Hoc Cascade component in the WebCommander which monitors the MCUs. The Ad Hoc Cascade component is installed as part of the MGC WebCommander Professional installation. When the Ad Hoc Cascade component finds that two or more MCUs are running a conference with the same Conference Numeric ID, it checks if the conferences are already cascaded by looking for a cascading link between the conferences. If there are no cascading links, the conferences are automatically connected using pre-defined cascading links. If at a later stage the Ad Hoc Cascade component finds an additional MCU running a conference with the same Numeric ID, it adds the conference to the cascaded conferences

The following apply to Auto Cascaded conferences:

- In Continuous Presence conferences, the layout must be set to full screen.
- For H.263 4CIF and H.264 Continuous Presence conferences, the link will be defined as H.263 CIF.
- The Auto Cascade feature does not work with H.239/People + Content.

Auto Cascading Setup

The following tasks must be performed to implement Auto Cascading:

- Configure the cascading links using the WebCommander Server Manager.
- Set up an Auto Cascade Entry Queue on each MCU on which Auto Cascading is to be implemented.

You must set up identical Ad Hoc Entry Queues and Profiles on each MCU, so that the cascaded conferences will have the same properties.

To use the Auto Cascade feature, the "system.cfg" flag QUICK_LOGIN_VIA_ENTRY_QUEUE must be set to NO on all MCUs, that is, the Conference Numeric ID routing mode must be used. This flag is located in the GREET AND GUIDE/IVR section of the "system.cfg" file.

Implementation of Chairperson features

The following chairperson actions are implemented across the MCUs

- Voting
- Question and Answer
- Replay Roll Call
- Change Password
- Operator Assistance

The following chairperson DTMF actions are implemented across the MCUs:

- Mute all but me
- Terminate the conference
- Place the conference on hold and release the conference from being placed on hold
- Lock and unlock the conference
- Secure the conference and release a secured conference
- Wait for the Chairperson

Chairperson Conference Activation

If chairperson activation is enabled in the Auto Cascade configuration in the MGC WebCommander Server Manager, then the cascaded conference may implement the "Start only when the chairperson connects", and "Terminate conference after the chairperson exits" features, provided these options are selected in the individual conferences. If the "Start only when the chairperson connects" option is implemented, participants in all conferences will be placed on hold until a chairperson joins one of the conferences. If the "Terminate conference after the chairperson exits" option is implemented, all conferences will be terminated when there is no longer a chairperson connected to a conference.

Terminating a Cascading Conference

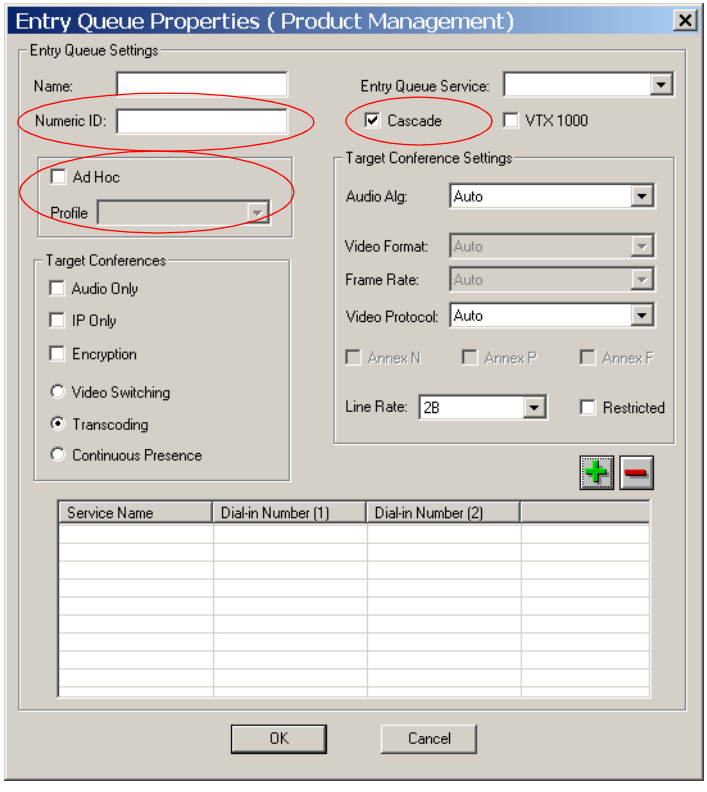
The system will terminate a slave conference when it no longer has any live participants, and will terminate the master conference when it no longer has any live participants itself and has no slave conferences with live participants.

Defining Auto Cascading Entry Queues

You must set up an Auto Cascading Entry Queue on each MCU on which Auto Cascading is implemented.

To define an Auto Cascading Entry Queue

1. In the *Entry Queue Properties* dialog box, select the **Cascade** check box.



2. Enter a value in the *Numeric ID* field. The Numeric ID must be identical in the Auto Cascading Entry Queues of all the MCUs.
3. Leave the **Ad Hoc** check box cleared.
4. Proceed to configure the Entry Queue as for any other Entry Queue. For details see the MGC Manager's User's Guide, Volume I, Chapter 8, "Defining a New Entry Queue".

Monitoring Auto Cascaded Conference Links

The links between Auto Cascaded conferences can be monitored in both the MGC Manager and the MGC WebCommander. The important links to monitor are the dial-out link participants.

The monitoring is per MCU. There is no GUI to display cascaded conferences across multiple MCUs as one conference.

Figure 3-1 shows an example of monitoring an Auto Cascaded conference in the MGC Manager.

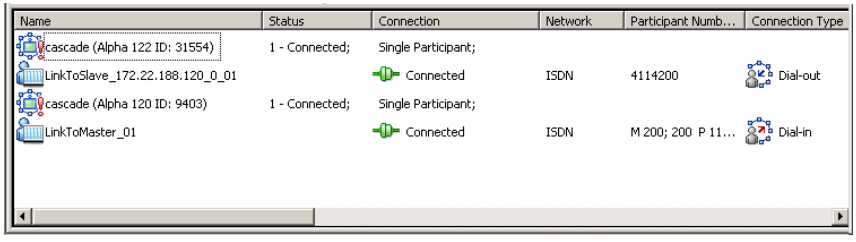


Figure 3-1: Monitoring an Auto Cascade conference

The Link Participant Names

The dial-out link participant name will be as follows:

LinkTo[ConferenceType(**Master**/**Slave**)]_[Target MCU IP]_ [Primary or Secondary connection (**0**/**1**)_[Link Number (**01**..**99**)]

For example, the master conference link to slave3 may be called:

LinkToSlave_11.11.11.11_0_03

Dial-in link participants will have a visual name of the following format after they are moved from the Entry Queue to the conference:

LinkTo[ConferenceType(**Master**/**Slave**)]_[Link Number (**01**..**99**)]

For example, the dial-in link from a slave conference may have the visual name:

LinkToMaster_01

Defining the Conferencing Components to Implement Ad Hoc Conferencing

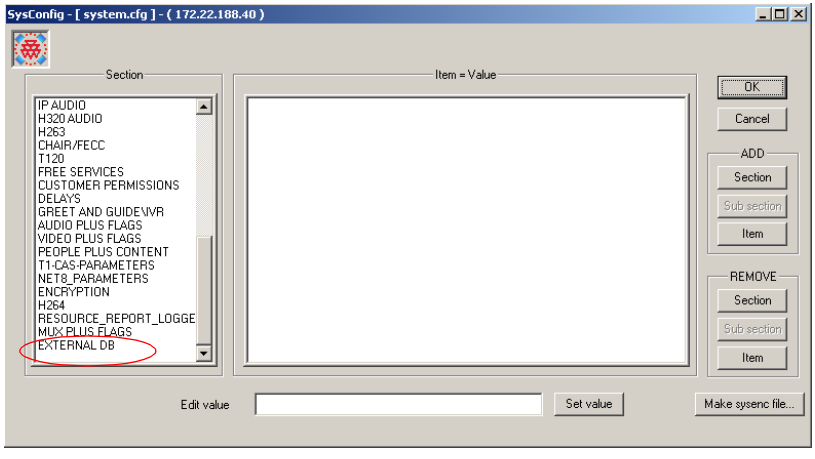
This section describes the procedures for configuring the conferencing components necessary to implement Ad Hoc Conferencing.

MCU Configuration to Access the External Database Application

When the MCU is working with an external database application, access to the external database must be configured in the "system.cfg" file.

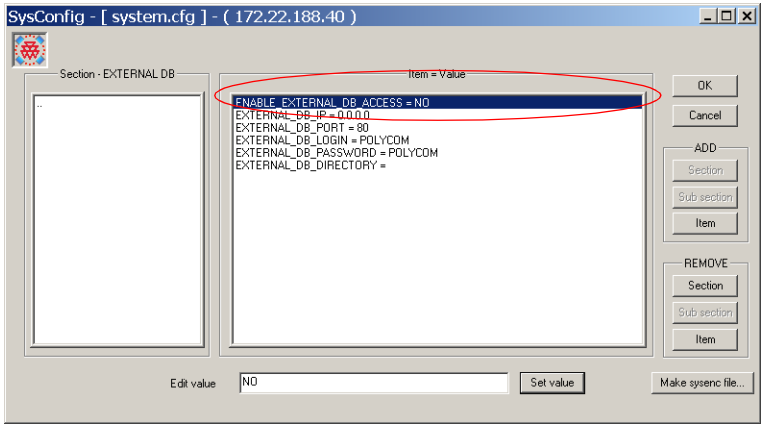
To set the external database flags in the system configuration file:

1. In the MGC Manager application, right-click on the *MCU* icon. A pop-up menu appears.
2. Click the **MCU Utils** option, and then click **Edit "system.cfg"**. The *SysConfig* dialog box opens.



3. In the Section pane, double-click the **EXTERNAL DB** option. The *External DB* flags are displayed in the Item =*Value* pane.

4. In the *Item=Value* pane, click the **ENABLE_EXTERNAL_DB_ACCESS** item. The item's value is placed in the *Edit value* text box.



5. In the Edit value text box, enter the value **YES**.
6. Click the **Set value** button.
7. Repeat steps 4 to 6 to set the values of the following flags:

Table 3-1: System.cfg values for accessing external database application

Flag	Description and Value
EXTERNAL_DB_IP	The IP address of the external application server.
EXTERNAL_DB_ PORT	The port number used by the MCU to access the external application server. For the WebCommander application you must specify **5005**.
EXTERNAL_DB_ LOGIN	The user name defined in the external database application for the MCU. For the WebCommander application, the default user name is: **POLYCOM**.
EXTERNAL_DB_ PASSWORD	The password associated with the user name defined for the MCU in the external database application. For the WebCommander application, the default password is: **POLYCOM**.

Table 3-1: System.cfg values for accessing external database application

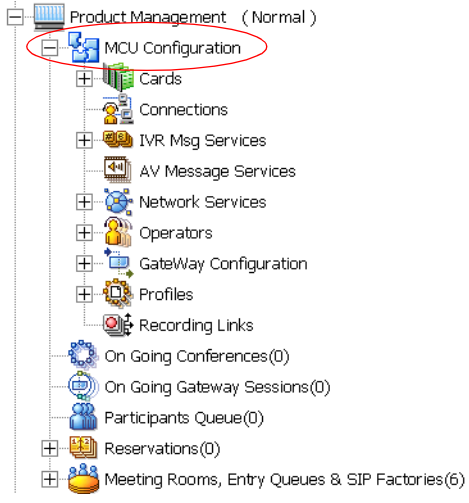
Flag	Description and Value
EXTERNAL_DB_ DIRECTORY	The URL of the external database application. For the sample script application, the URL is: **<*virtual directory*>/SubmitQuery.asp**

Entry Queue Service with Access to the External Database

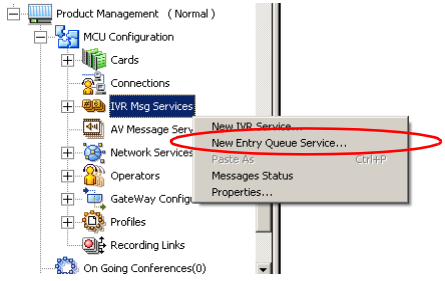
The Entry Queue Service must be configured to access to an external database application to verify the conference Numeric ID and permission to start a new conference, and to enable the Numeric ID Audio Messages.

To define the access to the External Database application:

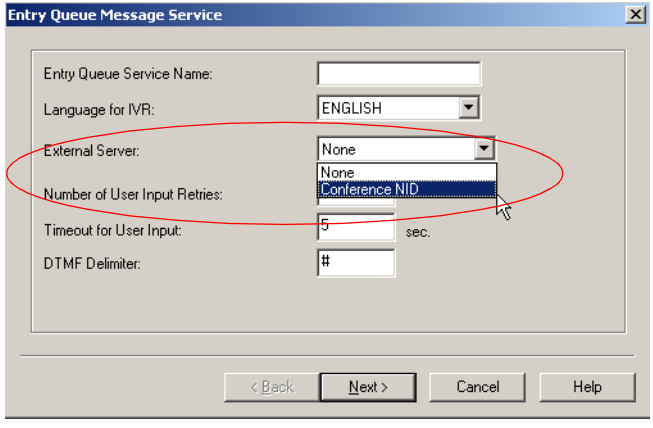
1. Connect to the MGC unit (MCU).
2. Click the plus [+] icon next to the *MCU* icon to expand its tree.
3. Double-click the *MCU Configuration* icon, or click the plus [+] icon next to it to display the MCU Configuration options.



4. Right-click the *IVR Services* icon, and then click **New Entry Queue Service**.



The *Entry Queue Messaqge Service General* dialog box opens.



This dialog box enables you to define the general parameters of the Entry Queue Service.

5. Define the following parameters:

Table 3-2: Entry Queue Service - Global Parameters

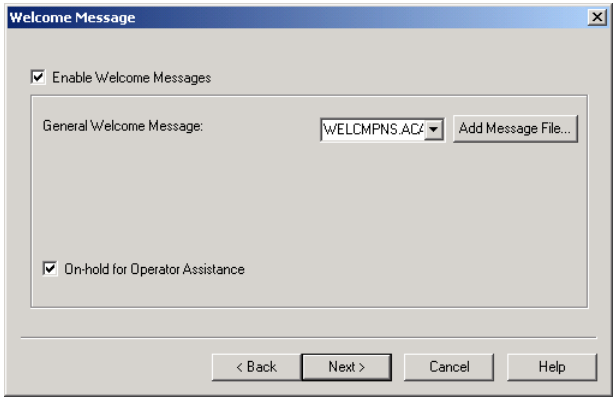
Option	Description
Entry Queue Service Name	Type the name of the *Entry Queue* Message service.
Language for IVR	Select the language in which the Audio Messages and prompts will be heard. The Languages are defined in the *IVR Properties* dialog box.

Table 3-2: Entry Queue Service - Global Parameters (Continued)

Option	Description
External Server	Select Conference NID to verify the conference Numeric ID with an external database application.
Number of User Input Retries	Enter the number of times the user is able to respond to each menu prompt before the participant is disconnected from the IVR system or waits for the Operator's assistance.
Timeout for User Input	Enter the duration in seconds that the system waits for input from the participant before it is considered as an input error.
DTMF Delimiter	The interaction between the caller and the system is done via touch-tone signals (DTMF codes). Enter the key that will be used to indicate a DTMF command sent by the participant or the conference chairperson. Possible keys are the pound key (#) or star (*).

6. Click **Next**.

   The *Welcome Message* dialog box opens.



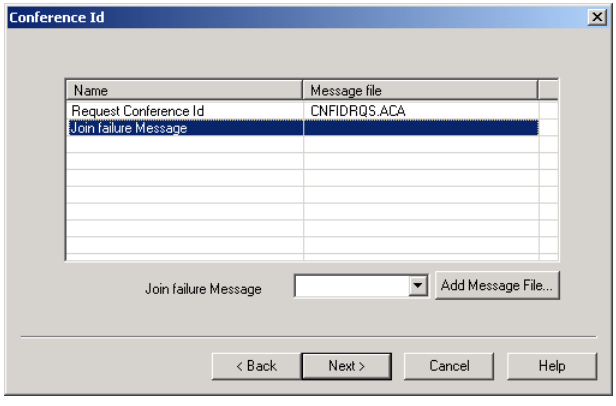
To set the Entry Queue to Attended mode, select the **On-Hold for Operator Assistance** check box. All participants connecting to this Entry Queue will be automatically placed in the participants Queue, where they wait for the operator to connect them to the conference.

This dialog box contains a limited set of options that are identical to those defined in the *IVR - Welcome Message* dialog box.

If the Entry Queue Service will be used in conjunction with an IVR Service and the conference is set to Entry Queue Access, forcing participants to go through both queues when connecting to the conference, the participant will hear the Welcome message twice (once in the Entry Queue and the second time in the IVR queue). In such a case, you may select the Welcome Message in the Entry Queue Service and disable it in the IVR Service.

7. Define the appropriate parameters. For a detailed description of the parameters, see Table 2-4 on page 2-28.
8. Click **Next**.

   The *Conference ID* dialog box opens.



The following messages and prompts may be played to request the conference Numeric ID:

Table 3-3: Conference Password parameters

Option	Description
Request Conference ID	Select the audio file that prompts the participant for the conference Numeric ID.
Join Failure Message	Select the audio file that requests the participant to re-enter the conference Numeric ID when failing to enter the correct conference Numeric ID.

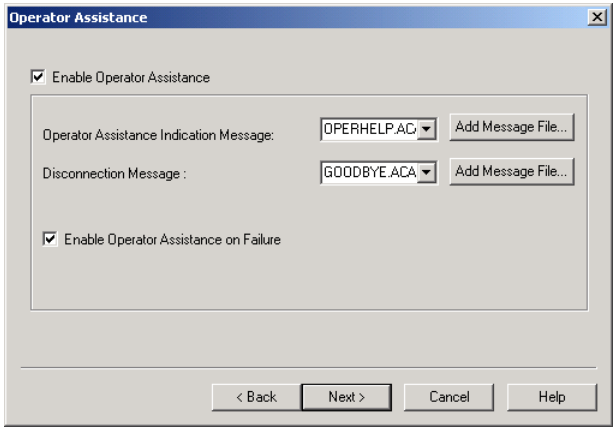
9. To assign the audio file to the message type, click the appropriate table entry.

   The message type appears at the bottom of the table and the drop-down list displays the names of the audio files stored in the MGC unit's memory.

If the files were not downloaded prior to the definition of the IVR Service or if you want to add new audio files, click **Add Message File** to download the appropriate audio file to the MGC unit's memory. For the downloading procedure, see step 8 on page page 2-29.

10. Click **Next**.

    The *Operator Assistance* dialog box opens.



11. Fill in the appropriate parameters. For a detailed description of these parameters, see Chapter 2, "IVR Properties - Operator Assistance Messages" on page 2-40.
12. Complete the definition of the Entry Queue Service as described in Chapter 2, "Defining a New Entry Queue Message Service" on page 2-53.

IVR Service with Access to the External Database Application

This component is necessary only for conferences that require password verification with an external database application.

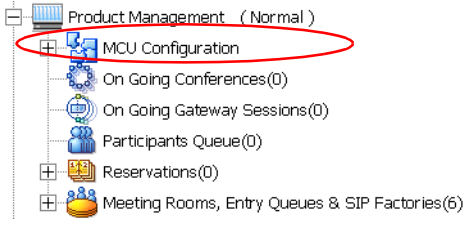
In this case, an external database application is queried by the MCU to verify whether a participant is allowed to access the conference.

The MGC WebCommander Server may be used as an external database application designed to communicate with the MCU and perform queries in Users tables (participants).

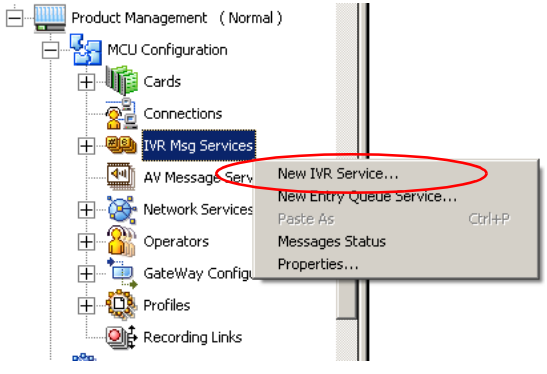
Access to an external database application is configured at the conference level, in the IVR Service.

To define access to the External Database application:

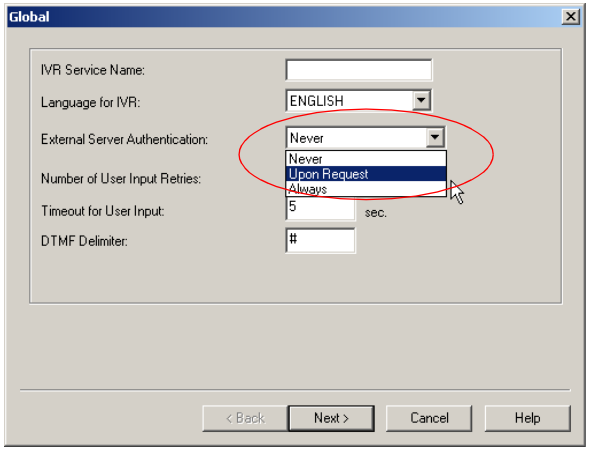
1. Connect to the MGC unit (MCU).
2. Click the plus [+] icon next to the *MCU* icon to expand its tree, and then double-click the *MCU Configuration* icon, or click the plus [+] icon next to it to display the MCU Configuration options.



3. Right-click the *IVR Services* icon, and then click **New IVR Service**.



The *IVR-Global* dialog box opens.



This dialog box enables you to define the general parameters of the IVR Service.

4. In the *External Server* drop down list, select one of the following options:
   - — **Never** to disable this option.
   - — **Upon Request** to verify the Chairperson password with an external database application. The validation process occurs only when the participant enters the Chairperson Identifier key (pound or star). All other participants are connected to the conference as standard, undefined participants.
   - — **Always** to verify the Conference Entry password (or the participant's personal password) with an external database application. The verification process occurs for all participants attempting to join the conference.
5. Complete the definition of the IVR Service as described in Chapter 2, "Defining a New IVR Message Service" on page 2-24.

Profiles

Profiles are conference templates stored on the MCU, designed mainly for Ad Hoc conferences. They must be defined for all Ad Hoc conferencing scenarios. Profiles are assigned to Entry Queues designated for Ad Hoc conferencing. They allow callers to start a new conference without prior definition of the conference, based on the conference properties defined in the Profile assigned to the Entry Queue.

Only MGC Manager operators with Superuser permission can create, modify or delete Profiles.

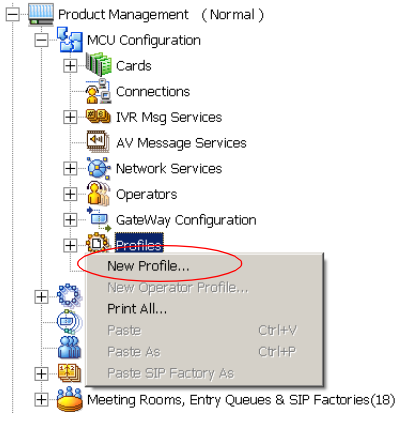
Defining Profiles

Profile definition is done the same way as defining a regular conference. It is recommended to create only Profiles required for Ad Hoc conferences and use Templates (database or MGC) for all other conferencing modes.

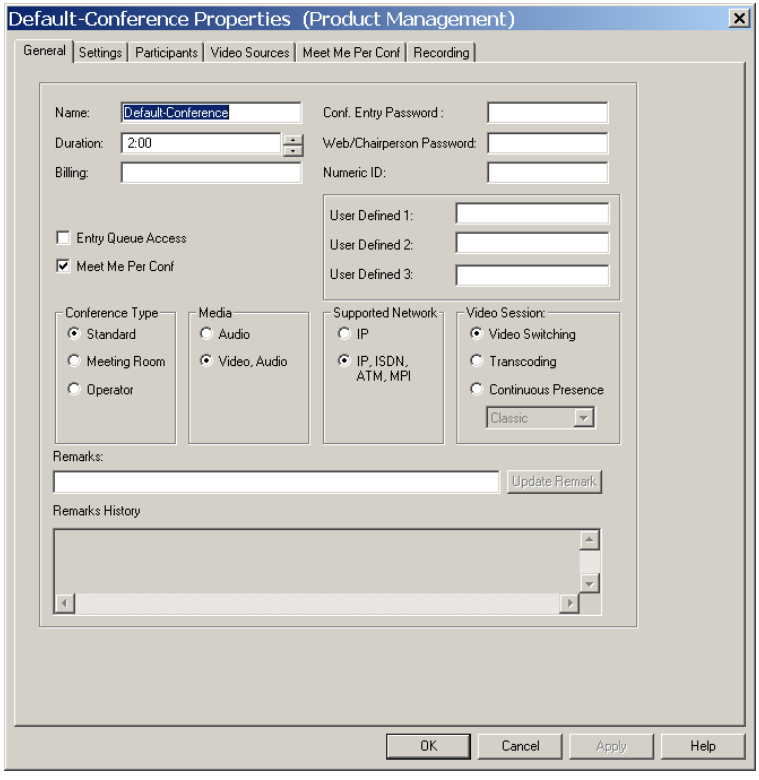
Profiles can be copied and pasted into Conference Template files and into databases, or as Profiles on other MCUs.

To define a new Profile:

1. In the *Browser* area, expand the MCU tree and then expand the *MCU Configuration* tree
2. Right-click the *Profiles* icon, and then click **New Profile**.



The *Conference Properties - General* dialog box is displayed.



3. Define the *Profile* parameters. These parameters are identical to the Conference Template parameters. For parameter details see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining a New Video Conference" or the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining New On Going Audio Conferences".

   — If conference access authentication with an external database application is required for this conference, in the *Properties - Settings* dialog box select an IVR service in which the *External Server Authentication* option is set to **Always** or **Upon Request**.

- It is not recommended to enter the Conf. Entry Password, Chairperson Password and the conference Numeric ID in the profile as all Ad Hoc conferences initiated from the Entry Queue(s) to which it is assigned will have the same Numeric ID and Passwords.
- The option for adding participants to the profile is intended for recording port and cascading link definitions.

4. Click **OK** to complete the *Profile* definition.
   A new *Profile* is created and added to the *Profiles* list.

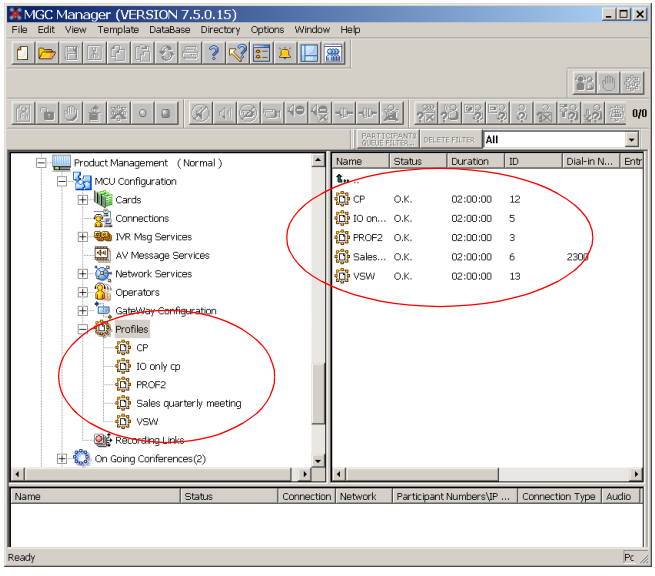
Listing Profiles

The Profiles are stored on the MCU's hard disk and can be viewed under the *MCU Configuration* tree.

To view the Profiles list:

- In the *Browser* area, expand the *MCU Configuration* tree and expand the *Profile* tree.

  To view the Profiles list in the *Status* area, click the Profiles icon. The Profiles are listed with Conference IDs, Passwords, dialing numbers and other information.



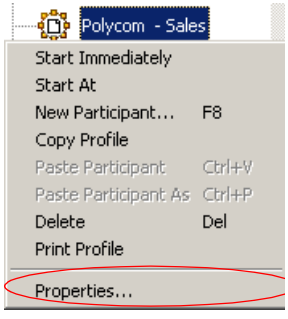
Using Profiles

In addition to Ad Hoc conferencing, Profiles can also be used in the same way as a Conference Template (database or Participant Template file). Once the Profiles are saved on the MCU, a Superuser operator can modify the Profile parameters, add and remove participants, start a conference immediately (based on the selected Profile), reserve the conference to start at a later time and perform other actions.

The selected Profile can be used to start a conference only on the MCU where it is stored. To use the Profile parameters on a different MCU, *Copy* and *Paste* the Profile into the desired MCU.

To modify the Profile Properties:

1. Right-click the *Profile* icon, and then click **Properties**.



   The Profile *Conference Properties - General* dialog box opens.

2. Modify the Profile parameters. You may also add participants to the Profile.
3. Click **OK** to save the changes and exit the *Profile* definition.

Adding a Recording Port to a Profile

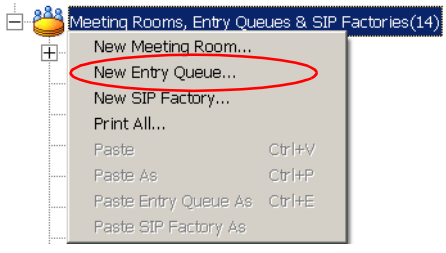
When defining a Profile that should be used to launch a conference with a recording port to record the conference audio channel using the Prairie system, you must add an Audio Only participant whose *Recording* option is set to **dial-up**. For more details on how to define a recording port, see the MGC Manager User's Guide, VoicePlus Edition, Chapter 8, "Defining a Recording Port Participant".

Ad Hoc-enabled Entry Queue

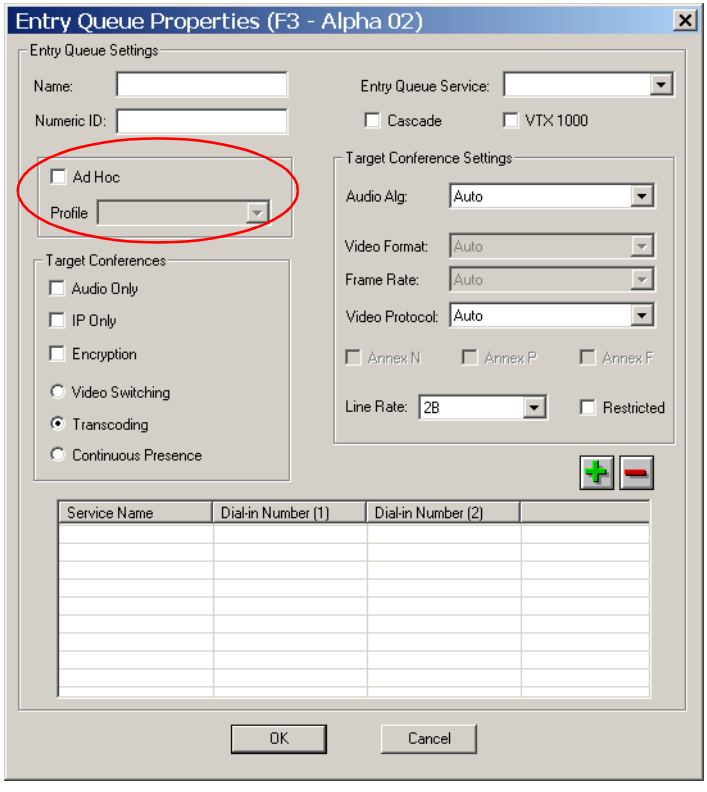
To enable Ad Hoc conferencing, configure the Entry Queue to support Ad Hoc conferencing and assign the appropriate Profile and Entry Queue Service to it. The Profile and Entry Queue Service must be defined prior to the definition of the Ad Hoc-enabled Entry Queue conference.

To define an Ad Hoc-enabled Entry Queue:

1. Connect to an MCU and expand its tree.
2. Right-click the *Meeting Rooms & Entry Queues and SIP Factories* icon, and then click **New Entry Queue**.



The *Entry Queue Properties* window opens.



3. Define the following parameters for Ad Hoc Conferencing.

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile

Option	Description
Name	Enter the name of the Entry Queue, using up to 18 characters.

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile (Continued)

Option	Description
Numeric ID	It is recommended to let the MCU assign the Numeric ID. The assignment is done once, when the Entry Queue is saved on the MCU. To define the Numeric ID manually, enter the Numeric ID using the number of digits as configured in the "system.cfg" (the range is 0-16 digits). The default number of digits is four. If the Numeric ID is already in use in another Entry Queue or a conference, an error message will be displayed. **Note:** • If the MCU is configured to support only *automatic* assignment of Numeric Conference IDs, then this field is disabled and the system automatically assigns a Numeric Conference ID after you save the Entry Queue on the MCU.
Entry Queue Message Service	Enter the name of the Entry Queue Service to be used to play audio and prompts and to display the video slide to participants waiting in the Entry Queue. Leave this field blank if you want to use the default Entry Queue Service (if an Entry Queue Service was set as default). **Note:** • Select a Numeric ID-enabled Entry Queue Service. • The system is case sensitive. • The same Entry Queue Service can be used for Audio Only and Video participants.
Cascade	This check box should be cleared for Ad Hoc Entry Queues.
VTX 1000	Select this check box to create a VTX 1000 enabled Entry Queue. Participants connecting to VTX 1000 enabled Entry Queues are initially assigned wide band resources. If the endpoint is not identified as VTX, the wide band resources are subsequently released.

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile (Continued)

Option	Description
Ad Hoc	Select this check box to enable Ad Hoc conferencing. When selected, and an Ad Hoc conference needs to be created, the Target Conference properties are taken from the Profile assigned to the Entry Queue. **Note:** • You cannot select the Ad Hoc option if Profiles are not defined in the system. • The Entry Queue can be used also for standard conferencing. In that case, participants can be moved to target conferences with properties identical to the Target Conference Setting Properties defined in the Entry Queue.
Profile	Select the Profile to be used for the definition of the target conference. The Profiles list includes all the profiles currently saved on the MCU. For more information about Profiles, see “Profiles” on page 3-29.
Target Conferences	
Audio Only	Select this check box to define an Audio Only Entry Queue. If the Audio Look & Feel mode is enabled for the MGC Manager, this option is automatically selected. Audio Only participants can connect to a video Entry Queue, and you do not have to define a separate Entry Queue for Audio Only participants.
IP Only	Select this check box to create an IP Only Entry Queue whose target conference are IP Only conferences. The target conferences can be set as VoIP conferences (Audio Only, IP Only) or Software Continuous Presence (video). For a detailed description of SWCP, see Chapter 1, “Software Continuous Presence Settings” on page 1-25.

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile (Continued)

Option	Description
Encryption	Select this check box to encrypt this Entry Queue. When enabled, only encrypted participants can join this Entry Queue, while non-encrypted participants are disconnected from the MCU. For more details about encryption and encrypted Entry Queues, see Chapter 1, "Media Encryption" on page 1-30.
Video Switching	Select this option to set the Entry Queue as a Video Switching Entry Queue, and save video resources (as no video ports are used for participant connection). The participants connect to this Entry Queue using the line rate and video settings of the Entry Queue. Therefore, to move from the Entry Queue to a destination Video Switching conference, the destination conference line rate and video settings must be identical to the Entry Queue settings, otherwise the endpoint will experience connection failure. If the participants are moved from a Video Switching Entry Queue to *Transcoding* or *Continuous Presence* conference, they retain the video settings of the Entry Queue, hence not using the endpoint's best capabilities. To use the endpoint's highest capabilities, set a different Video Switching Entry Queue for each combination of line rate and video settings used by most endpoints, or define a Transcoding or Continuous Presence Entry Queue (using video resources).
Transcoding/ Continuous Presence	Select this option to define a Transcoding/Continuous Presence Entry Queue. When participants connect to this Entry Queue, they use the MCU's video resources. Participants connecting to this Entry Queue maintain their highest capabilities when moved to a *Transcoding* or *Continuous Presence* conference. If the target conference is a *Video Switching* conference, the audio, video, and line rates of the Entry Queue and the target conference must match or the endpoints will not be able to connect to the target conference.

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile (Continued)

Option	Description
Target Conference Settings	
Audio Alg.	Select the audio algorithm for the Entry Queue. If target conferences are Audio Only conferences, select G.711. If IP Only, you have an additional option G.723/G.729. If set to **Auto** the system tries to connect the participants using the best possible audio algorithm selecting it in the following order: G.728, G.722, G.711.
Video Format	Select the Video format for the Entry Queue according to the target conference settings. The Video Format options are enabled only when defining a Video Switching Entry Queue and when the video protocol is H.261 or H.263. Select **Auto** to let the system select the appropriate video format according to the participant properties. Select video format to force the participant to connect using one of these frame resolutions. For a detailed description of the video format options, see the MGC Manager User's Guide Volume 1, Chapter 4, "Defining Advanced Media Settings".
Frame Rate	Select the Frame Rate for the Entry Queue according to the target conference settings. This option is enabled only for Video Switching conferences set to H.261 or H.263. Select **Auto** to let the system select the appropriate frame rate. Select one of the frame rates to force the participant to connect using this frame rate. For a detailed description of the frame rates values see the MGC Manager User's Guide Volume 1, Chapter 4, "Defining Advanced Media Settings".

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile (Continued)

Option	Description
Video Protocol	Select the video compression protocol for the Entry Queue according to the target conference settings. **Auto** - select this option to let the system automatically select the appropriate compression method for connecting the participant to the target conference. **H261** - the video compression standard mandatory to all codecs. **H263** - A compression standard that provides improved video quality at a line rate lower than 384 Kbps. This standard is not supported by all endpoints. If H.263 is selected in Video Switching conferences, all the participants must be connected using this protocol. Participants whose endpoint does not support H.263 are connected as secondary. **H264** - a video compression standard that improves video quality at a line rate lower than 384 Kbps. H.264 is supported with the following Continuous Presence options: Conference on Port (COP), Personal Layout and Click&View. H.264 is supported in the People channel in the same way as in a standard VSW conference. The Content channel only uses H.263.
Annexes	Annexes are additions to the *Video Format* when using H.263 Video Protocol, increasing the quality of the video display. Select the Annexes for the Entry Queue if these annexes are used in target conferences. Annexes N, P, and F are enabled only when defining a Video Switching Entry Queue and the Video Protocol is set to H.263. For more details on Annexes, see the MGC Manager User's Guide Volume 1, Chapter 4, "Defining Advanced Media Settings".

Table 3-4: Entry Queue for Ad Hoc Conferencing using a Profile (Continued)

Option	Description
Line Rate	Select the maximum line rate at which the endpoint will connect to the Entry Queue and the target conference. For a Video Switching Entry Queue, select the highest line rate common to all participants. For Transcoding and Continuous Presence Entry Queues, set the line rate to the highest line rate that can be used by the participants in the conference. If the target conference is Video Switching, the Entry Queue line rate must be the line rate that is set for the target conference to enable the participant to move from the Entry Queue to the target conference.
Restricted	Select this option to enable participants using Restricted lines (the Line Rate for each channel is 56 Kbps instead of 64 Kbps) to connect to the Entry Queue and be moved to a Video Switching conference set as Restricted lines.
Service Name	Enter the name of the ISDN Network Service or the T1-CAS Network Service to be used by participants to connect to the conference exactly as it is defined in the *Network Services* list (the system is case sensitive).
Dial-in number (1)	Enter the first dial-in number to be assigned to the Entry Queue. This number must be part of the dial-in numbers range defined for the selected ISDN Network Service or the T1-CAS Network Service. For more details regarding the dial-in numbers range, see the MGC Administrator's Guide, Chapter 3. **Note:** When connecting ISDN lines via a private PBX to the MCU, the PBX may truncate the dialed numbers. In that case, the dial-in numbers defined in the ISDN Network Service may include only part of the dialed string. The operator must add the truncated digits to the dial-in number conveyed to the participant.
Dial-in number (2)	Enter the second dial-in number to be assigned to the Entry Queue. This number is optional.

SIP Factories

The SIP Factory is a conferencing entity that enables SIP endpoints to create an arbitrary number of ad hoc conferences and automatically connect to the new conferences.

When a SIP endpoint calls the SIP Factory URI, and the call is established successfully, a new conference is automatically created and the endpoint joins the conference. All other participants are invited to the conference using the SIP REFER method. The conference automatically ends when the conference creator leaves the conference.

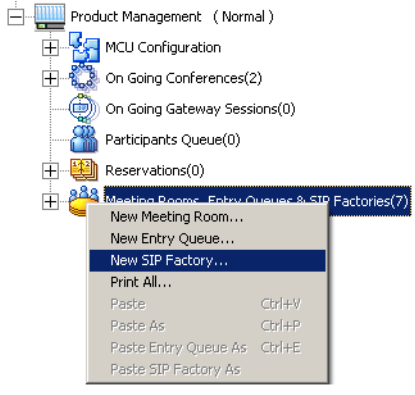
The SIP Factory URI must be registered with the SIP server to enable routing of calls to the SIP Factory. To ensure that the SIP factory is registered, the option to register Entry Queues and SIP Factories must be enabled in the IP Network Service. For instructions refer to the MGC Manager Administrator's Guide, Chapter 3, "Defining an IP Network Service".

Creating SIP Factories

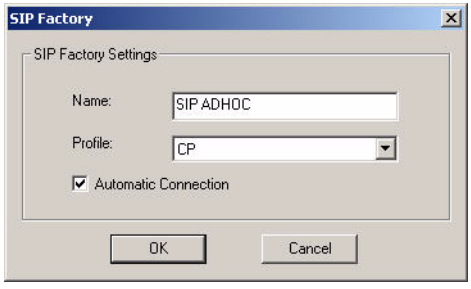
A conference Profile must be defined in the MCU before creating a SIP Factory. The Profile should be set to Auto Terminate when the Chairperson exits the conference.

To create a SIP Factory:

1. Expand the MCU tree.
2. Right-click the *Meeting Rooms, Entry Queues & SIP Factories* icon and then click **New SIP Factory**.



The *SIP Factory* dialog box opens.



3. Define the following parameters:

Table 3-5: SIP Factory Properties

Option	Description
Name	Enter the SIP Factory name. This name will be used as part of the URI dialed by the SIP endpoint to initiate the conference (together with the domain name).
Profile	Select the conference Profile from the list of Profiles defined in the MCU. The new conference will be created using the parameters defined in the Profile.
Automatic Connection	Select this check box to immediately accept the conference creator endpoint to the conference. If the check box is cleared, the endpoint will be redirected to the conference and then connected.

4. Click **OK**.
The new SIP Factory is added to the list.

Connecting to the SIP Factory

The conference initiator dials the SIP Factory URI and connects to an Ad-hoc conference. The conference initiator uses REFER to join other participants to the conference.

4

AV Message Services and Greet and Guide Conferences

This chapter describes the following Greet and Guide features and terms:

- Operations that can be performed in the Greet and Guide mode
- Greet and Guide Statuses – describes various participant statuses during a Greet and Guide conference
- Greet and Guide Setting workflow – describes briefly the steps required to setup and manage Greet and Guide conferences
- Step-by-step instructions for setting up Message Services and Attended conferences
- Monitoring Greet and Guide conferences – describes the various options for monitoring Greet and Guide conferences
- Operations that can be performed during On Going Conferences

Greet and Guide tools that are used to prepare audio messages and video slides for the Greet and Guide conferences are described in the MGC Administrator's Guide, Chapter 8, "Audio and Video Conversion Tools".

Greet and Guide Conferences

The Greet and Guide conference is a form of an attended conference with an assigned AV Message Service in which participants are moved from one stage to another during their connection to the conference.

There are two types of Attended conferences:

- Welcome (No Wait)
- Attended (Wait)

In the **Welcome (No Wait)** conference, the participant is greeted by a video slide and an audio message when connecting to the conference. After a pre-defined period, the participant automatically connects to the conference without the operator's assistance.

In an **Attended (Wait)** conference, the participant is greeted by the video slide and the audio message, and waits for operator assistance in the Participants Queue.

The Greet and Guide software module enables the operator to perform the following operations:

- Provide personal guidance to conference participants.
- Customize the video slide and audio message played when participants connect to the MCU and move through the various stages of the Greet and Guide conference.
- Monitor and assist all the participants currently waiting in the Participants Queue regardless of their conference association.

Greet and Guide conferences run on a standard audio card. If your MCU includes an Audio+ card you can use the IVR Service to perform the same functions.

Operator Conferences

An Operator conference is a video conference, that allows the operator and one participant to talk without disturbing the On Going Conference. The participant taking part in an Operator conference is moved from the Participants Queue or the On Going Conference to the Operator conference.

Operator conferences may be used for Greet and Guide conferences and IVR enabled conferences. For more information about IVR enabled conferences, see Chapter 2. For more information about Operator conferences, see the MGC Manager User's Guide, Volume I, Chapter 8.

Greet and Guide Stages

Participants in a Greet and Guide conference can have one of the following statuses:

- *Greeting* – the participant connects to the MCU, enters the Welcome queue, and receives a video slide and an audio message.
- *Attended* – the participant is in a video conference with the operator.
- *On Hold* – the participant is moved to the Participants Queue where the video slide is shown and a special audio message is played. Usually, this is the status of participants that were already attended to by the operator, and are waiting to be connected to the conference.
- *Conferencing* – the participant is connected to the conference.

In Greet and Guide conferences, the operator controls the transition between attended stages. You can define a conference in which the transition from the greeting stage to the conferencing stage is automatic, without the operator's intervention. In the **Welcome (No Wait)** mode, the participant who connects to the conference sees the video slide, hears the audio message and, after a pre-defined period, is automatically connected to the conference without the operator's assistance.

Several operators can run Greet and Guide conferences simultaneously.

AV Message Services

An AV Message Service is a set of audio messages (two per Message Service) and a video slide that are assigned to a conference. This set is activated when a participant connects to the Greet and Guide conference to which the set is assigned. Up to four Message Services can be defined to accommodate different types of conferences. For example, setting up a conference for a certain company on a regular basis, you can use the company's logo, and/or title in the opening video slide and have a special message recorded.

Greet and Guide Hardware

To set up and manage Greet and Guide conferences the following hardware is required:

- **Messages extension** – a special card that is attached to the audio card. It stores up to eight audio messages (four Attended messages and four On Hold messages) that can be played while the participants wait in the Welcome queue. Only one message extension per MCU can be installed.
- **Music card (optional)** – an I/O card attached to the rear of the Audio module, at the MCU's rear panel. It is used to play back music or recorded messages from an external device such as a tape or CD player. If both extensions (Music and Messages) are installed in the MCU, background music can be played from the external device while an audio message is played from the Messages Extension. When no message is played, the system plays the music/audio from the external device. When the audio massage is played, the volume of the background music/audio is automatically decreased, and then increased again at the end of the audio message.
  Only one music card per MCU can be installed.
- **MUX** – the video slides are downloaded and stored in the MUX memory. Up to four slides may be stored in the MUX memory – one per Message Service. To run Greet and Guide conferences, all MUX modules must be compatible with each other.

For more information see the MGC Administrator's Guide, Chapter 8.

Greet and Guide Tools

The MGC Manager includes tools that allow you to convert the audio and video files into a format recognized by the MCU, and send the converted files to the MCU for storage in the memory of the appropriate card. For details, see the MGC Administrator's Guide, Chapter 8.

Greet and Guide Settings Workflow

Greet and Guide conferences can be set only if the following procedures are completed beforehand:

- During installation, the Message extension and the Music card (optional) are installed in the MCU and the Audio card is configured accordingly. For more details, see the MGC Installation and Configuration Guide, Chapter 4.
- The welcome audio messages are recorded. For more details, see the MGC Administrator's Guide, Chapter 8.
- The welcome video slide is created. For more details, see the MGC Administrator's Guide, Chapter 8.
- The Audio message and the Video slide are converted into the MGC format. For more details, see the MGC Administrator's Guide, Chapter 8.
- A new AV Message Service is defined. For more details, see "Defining a New AV Message Service" on page 4-6.

The audio messages, video slide and AV Message Services may be prepared in advance for different types of conferences and used repeatedly, over time, or they may be created when needed.

Defining a New AV Message Service

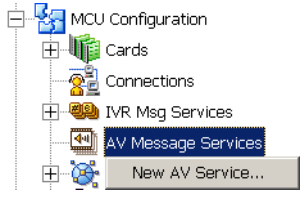
An AV Message Service contains the video slide, audio messages set and, if available, music input from an external device. A special AV Message Service can be set for different Attended conferences or for conferences reserved on a regular basis. Different messages can be created for weekdays and holidays, or special announcements. Up to four AV Message Services may be defined in the system.

The AV Message Service can be defined only after the appropriate audio and video files are prepared and converted into MGC internal format files. For details, see the MGC Administrator's Guide, Chapter 8

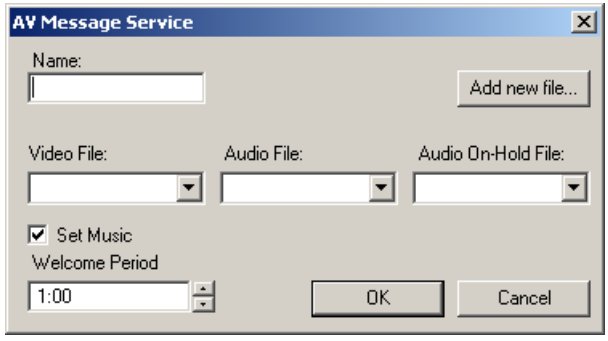
A new AV Message Service cannot be defined while there are active conferences and reservations on the MCU.

To define the new AV Message Service:

1. Connect to the MCU.
2. Double-click the *MCU* icon, or click the plus [+] icon next to the *MCU* icon to expand the *MCUs* options.
3. Ensure that there are no active conferences or reservations currently on the MCU.
4. Double-click the *MCU Configuration* icon, or click the plus [+] icon next to the *MCU Configuration* icon to expand the *MCUs Configuration* options.
5. Right-click the *AV Msg Services* icon, and then click **New AV Service**.



The *AV Message Service* dialog box opens.



Only files that were downloaded and are stored in the MCU are shown in the Video File, Audio file and Audio On-Hold file lists. If you have not downloaded the files prior to the AV Message Service definition, you can do it now, using the **Add New File** option. For instructions, see step 8 on page page 4-8.

6. In the *Name* box, enter the service name.
7. Define the following parameters:

Table 4-1: Message Service options

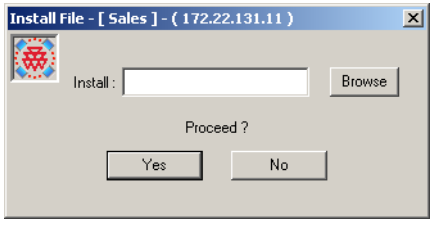
Field	Description
Video File	Select the name of the video file that is displayed when the participant connects to an Attended conference to which this message service is assigned. This video slide is displayed when the participant is in the Greeting or On Hold stages.
Audio	Select the name of the audio message file that is played when the participant is in the Greeting stage of a Welcome (No Wait) or Attended (Wait) conference.
Audio on Hold	Select the name of the audio message file that is played when the participant is placed on hold. If the same file is used for the Greeting and On-Hold stages, the same file must be selected in both fields.

Table 4-1: Message Service options (Continued)

Field	Description
Set Music	Select this check box to play music from an external device while the participant is on hold. This option is relevant only if the music extension is installed in the MCU.
Welcome period	Define the length of time in minutes that the welcome slide is to be displayed, before the participant automatically connects in to the conference. This option is relevant only for Welcome (No Wait) conferences.

8. If the audio and video files were not downloaded to the MCU prior to the definition of the AV Message Service (using the *Send File* utility), you can download them now.

   — In the *AV Message Service* dialog box, click the **Add New File** button to download the files to the MCU.
   The *Install File* dialog box opens.



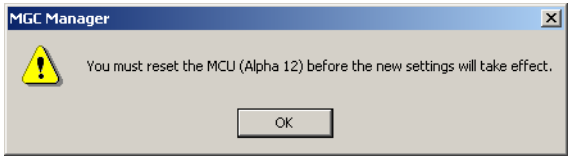
   — Click the **Browse** button to open the *Select Source File* dialog box and select the audio or video file (in MGC format *.aca or *.acv), and then click **Open**.
   The name of the file appears in the *Install* field in the *Install File* dialog box.

   — Click **Yes** to proceed with file downloading to the MCU's hard disk
   The *Done* dialog box opens.

   — Click **OK**
   The system returns to the *AV Message Service* dialog box.

9. Click **OK** to save the new Message Service.

A system message is displayed indicating that the MCU must be reset to be able to use the new AV Message Service. The reset is necessary in order to download the video slide and the audio messages from the MCU's control unit to the MUX card's memory (the video slide) and to download the audio message to the Message extension on the Standard Audio card (the audio messages).



10. Click **OK** to confirm.
    The new AV Message Service is added to the AV Message Services list.
11. Reset the MCU.

Before you reset the MCU, ensure that no-one else is using the MCU.

Listing the AV Message Services

To view the list of AV Message Services defined in the system:

1. Connect to the MCU.
2. Expand the *MCU* options by double-clicking the *MCU* icon, or by clicking the plus [+] icon next to the *MCU* icon.
3. Double-click the *MCU Configuration* icon or click the plus [+] icon next to the *MCU Configuration* icon to expand the *MCU Configuration* options.
4. Click the plus [+] icon next to the *AV Msg Services* icon, or double-click the *AV Msg Services* icon.
   The list of AV Message Services is displayed.

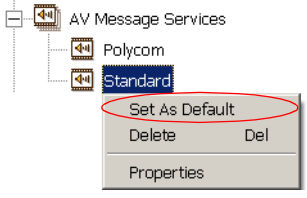
Up to four AV Message Services can be defined in the system. The default AV Message Service is indicated by a highlighted icon and bold name.

Setting an AV Message Service as the Default Service

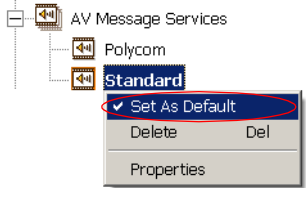
An AV Message Service can be set as the default service. Attended (wait) or Welcome (No Wait) conferences in which the Message Service is not defined use the audio and video settings of the default AV Message Service.

To set an AV Message Service as the Default Service:

1. View the AV Message Services as described in "Listing the AV Message Services" on page 4-10.
2. Right-click the icon of the *AV Message Service* to set as default, and then click **Set As Default**.



A check mark appears next to the function in the pop-up menu and the icon is highlighted. The AV Message Service name is displayed in bold print.



You cannot set an AV Message Service as default while there are active conferences and reservations saved on the MCU.

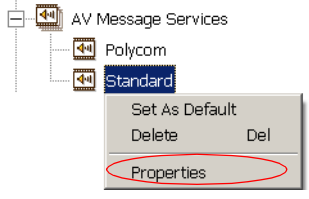
Modifying an AV Message Service

You may change the selection of the video and audio files set in the AV Message Service. However, the Message Service name cannot be modified.

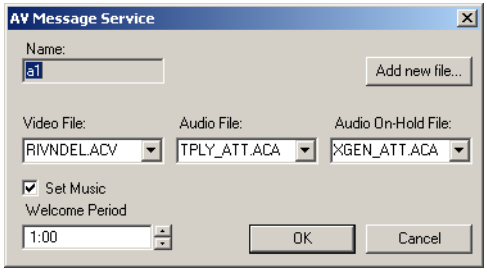
To change the Message Service name, delete it from the list and define a new one with a different name.

To change the AV Message Service parameters:

1. View the defined AV Message Services as described in "Listing the AV Message Services" on page 4-10.
2. Right-click the icon of the AV Message Service you want to modify, and then click **Properties**.



The *AV Message Service* dialog box opens.



3. Modify the AV Message Service parameters, as described in "Defining a New AV Message Service" on page 4-6.
4. Click **OK** to confirm.

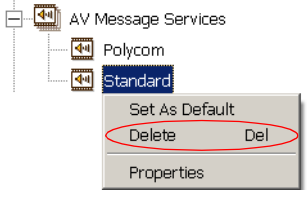
If you have selected a different audio and/or video file, the MCU must be reset for the changes to take effect.

Deleting a Message Service from the Message Services List

Use this option to delete an AV Message Service from the list. This option is useful if you want to define a new Message Service and you have exceeded the four allowed Message Services, or if you want to replace an existing Message Service.

To delete a Message Service from the AV Message Service list:

1. View the AV Message Services as described in "Listing the AV Message Services" on page 4-10.
2. Right-click the icon of the AV *Message Service* and then click **Delete**.



A confirmation message appears.

3. Click **Yes** to confirm or **No** to cancel the operation.

Defining an Attended (Wait) or Welcome (No Wait) Conference

There are two types of Greet and Guide conferences: Attended (Wait) and Welcome (No Wait).

- In an *Attended (Wait)* conference, upon connection to the MCU, the participant enters the Greeting stage. In this stage, the participants are transferred to the Participants Queue where they view the video slide and hear the audio message. The welcome video slide and audio message are defined in the AV Message Service assigned to the conference. The participants stay in the Participants Queue until the operator transfers them to the Operator conference for assistance. From the Operator conference the participant may be transferred directly to the conference, or put on hold until all other participants in the conference have been assisted.
- In a *Welcome (No Wait)* conference, upon connection to the MCU, the participant enters the Greeting stage. In this stage, the participants are transferred to the Participants Queue where they view the video slide and hear the audio message. After a predefined period, participants are automatically transferred to the appropriate conference (Home conference). The welcome video slide, audio message and the waiting period in the queue are defined in the AV Message Service assigned to the conference.

An Attended or a Welcome conference is set using the same options as for the following standard conferences:

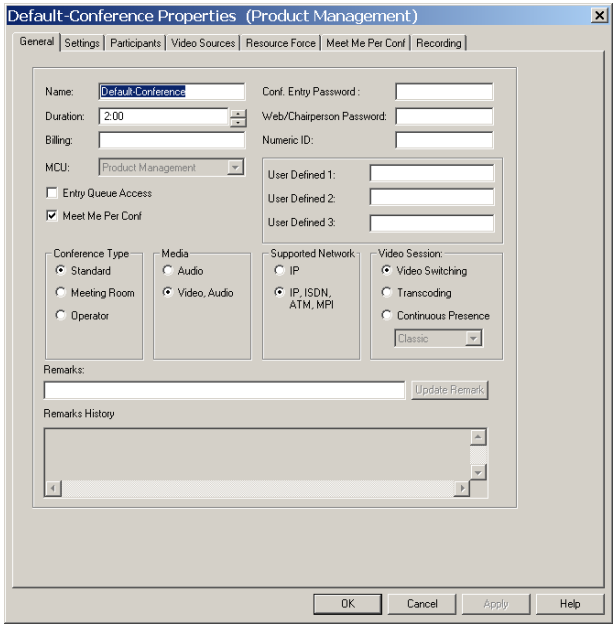
- Setting an On Going Conference directly
- Setting a Reservation directly
- Defining a Reservation template

To define the Greet and Guide specific parameters:

1. Open the *Conference Properties – General* dialog box using one of the following three methods:
   - — In the MGC Manager main window, right-click the *On Going Conferences* icon, and then click **New Conference.**
   - — In the MGC Manager main window**,** right-click the *Reservations* icon, and then click **New Reservation.**

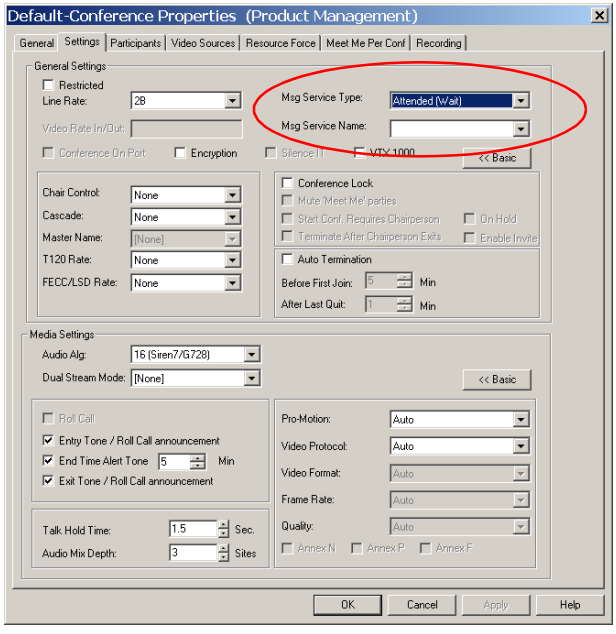
— In the Reservations in <database> window, expand the Groups hierarchy until you locate the Group to which to add the Greet and Guide Reservation template. Right-click the *Group* icon and then click **New Res Template**.

2. In the *Conference Properties – General* dialog box, define the conference *Name* and *Duration* and then set the conferences type as *Standard*. Select the *Media* (*Audio* and *Video*), *Supported Networks* (all Networks) and *Video Session*. For more details, see the MGC Manager User's Guide, Volume I, Chapter 4, "Conference General Parameters".



3. If you are defining a Reservation, click the **Scheduler** tab.
4. Select the conference *Starting Date* and *Starting Time*. For more details, see the MGC Manager User's Guide, Volume I, Chapter 9, "Defining a New Reservation".
5. Click the **Settings** tab.

The *Conference Properties – Settings* dialog box opens.



6. Define the *Restricted*, *Line Rate T120, Audio Alg., Video Protocol, Video Format, Talk Hold Time* and *Audio Mix Depth* fields as for standard conferences. For a detailed description of these fields, see the MGC Manager User's Guide, Volume. I, Chapter 4, "Conference Settings"
7. In the *Msg Service Type* field, select **Welcome (No Wait)** for a Welcome conference or **Attended (Wait)** for an Attended conference.
8. In the *Msg Service Name* field, select from the drop-down list the name of the AV Message Service (one of the four Message Services you have previously defined) to be assigned to the conference.

   If the *Msg Service Name* field is left blank, the system uses the video slide and audio messages of the default Message Service. For details on how to set a Message Service as default, see "Setting an AV Message Service as the Default Service" on page 4-11.
9. Click the **Participants** tab.
   The *Conference Properties – Participants* dialog box opens.

10. Select the conference participants from the Database or User Template file or define new participants as described in the MGC Manager User's Guide Volume. I, Chapter 4, "Defining Participant Properties".
11. If required set the Meet Me Per Conference parameters as described in the MGC Manager User's Guide, Volume I, Chapter 7, "Defining a Meet Me Conference".
12. Click **OK** to complete the definition. The conference is added to the On Going Conference, Reservation, or Template list.

Managing Greet and Guide Conferences

Participants in Greet and Guide conferences can be in one of four stages: Greeting, Attended, On Hold and Conferencing.

Attended Greet and Guide conferences are managed and monitored like standard Attended conferences using IVR Services. The operator controls all stages of the Attended conferences. For more information regarding Attended conferences, see the MGC Manager User's Guide, Volume. I, Chapter 8.

In a Welcome (No Wait) conference, the participant is automatically moved from the Participants Queue (Greeting stage) to the Conference (conferencing stage) without the operator's intervention. However, while in the Participants Queue, the operator can move the participant to the Operator conference for a one-on-one conversation (if needed).

The MGC Manager provides tools that enable you to monitor participants statuses in each conference stage, and to move them from one stage to another:

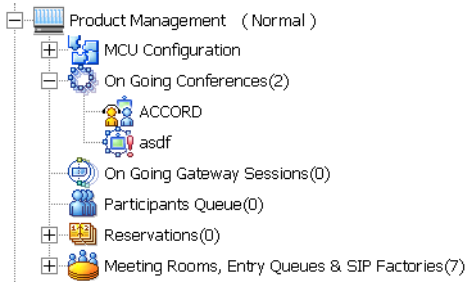
- The status of participants in Attended conferences can be monitored in the *Participants Queue*.
- Special icons are used to indicate the participant status in a Greet and Guide conference.
- Interactive drag and drop of participants from the Participants Queue to the Operator conference, or to any other conference is available.
- Adding or deleting participants from Greet and Guide conferences

Once the participant connects to the conference, all operations that can be performed during a standard conference can also be performed during an On Going Greet and Guide conference. For details, see the MGC Manager User's Guide, Volume I, Chapter 5, "Operations Performed During On Going Conferences".

Viewing Participants in a Greet and Guide Conference

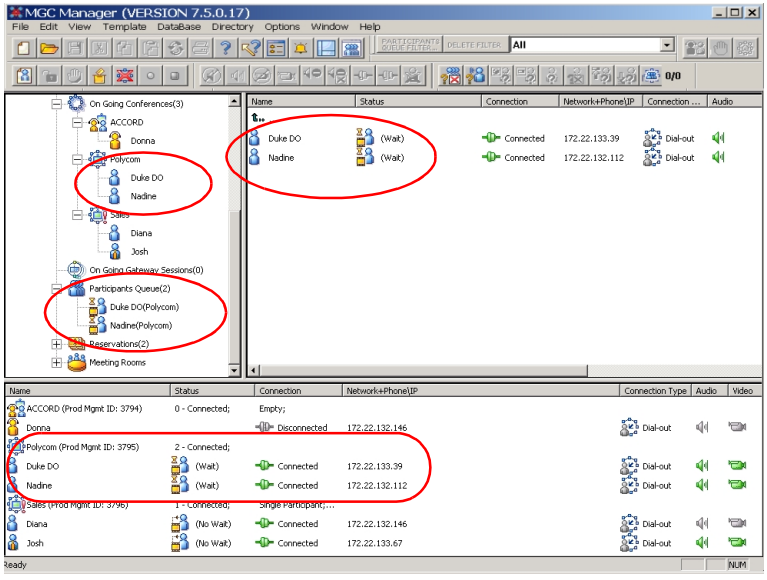
To view participant statuses in a Greet and Guide Conference:

1. Connect to the MCU.
2. Click the plus [+] icon next to the *MCU* icon to display its options.
3. Double-click or click the plus [+] icon next to the *On Going Conferences* icon.
   The list of On Going Conferences is displayed.



4. Double-click or click the plus [+] icon next to the conference whose participants you want to list.

The list of participants is displayed.



Participants of an *Attended* (**Wait**) conference that are waiting for operator assistance are listed both in their Home conference and in the Participants Queue. Participants of a *Welcome* (**No Wait**) conference who are in the Greeting stage are only listed in the Home conference.

Icons used to indicate the Participant Status

Specific icons are used to identify the participant status in a Greet and Guide conference as follows

Table 4-2: Greet and Guide Participant Status

Icon	Description
	The participant was moved to the Operator conference (the Attended stage) and is being assisted by the operator.
	The participant is in the Greeting stage and has been placed in the Participants Queue.

Table 4-2: Greet and Guide Participant Status (Continued)

Icon	Description
	When there is a problem with the participant connection while in the Greeting stage, an exclamation point appears next to the participant icon.
	The participant is connected to the MCU and is waiting in the Participants Queue for the operator's assistance.
	When a fault occurs while the participant is in the Participants Queue, an exclamation point appears next to the participant icon.
	The participant is on hold – not taking part in any conference. When placed on hold, the participant hears background music.

Once connected to the conference, the standard icons (see the MGC Manager User's Guide, Volume I, Chapter 5) are used to indicate the participant status.

In addition to the icons, the following indications may appear in the *Status* column in the *Status* and *Monitor* panes of the MGC Manager's main window:

Table 4-3: Status column indications

Status	Description
Welcome Waiting (Connected)	Indicates that the participant is connected to the MCU and is currently waiting in the Welcome queue.
Attended (Faulty Connected)	Indicates that the participant is taking part in an Operator conference and is being assisted by the operator.
Hold (Connected)	Indicates that the participant is on hold – not taking part in any conference. While on hold, the participant views the Welcome Video Slide and hears the On Hold audio message assigned in the Messages Service.

Participant Queues

In the *Participants Queue* window, the system lists the participants who require the operator's assistance or are on hold in all conferences, regardless of which conference they belong to. The Participants Queue is mainly intended for Attended conferences. The *Participants Queue* window facilitates the operator's work by providing special tool bars, command buttons and options to easily move the participants from the Participants Queue window to their destination conference.

For more information about the Participant Queue, see the MGC Manager User's Guide, Volume I, Chapter 8, "The Participant's Queue Window".

5

H.243 Conferences

The MGC unit supports conferences with the following capabilities:

- *H.243 Cascading* - Enables operators to combine separate conferences into one large conference.
- *H.243 Chair Control* - Allows an endpoint to control the conference using the H.243 Chair Control as described in the standard. The chairperson can disconnect participants, video force Continuous Presence layouts and terminate the conference.
- *Multi-Hierachy (MIH)* - MIH cascading allows for multiple levels of Master-Slave relationships.

H.243 Cascading Conferences

Cascading enables operators to run two or more conferences as one conference. The conferences can be run on the same or different MCUs.

For Simple Cascading Conferences see Chapter 1, “Simple Cascading Conferences” on page 1-35.

The Cascading mode enables running very large conferences (with more than 30 participants when using the standard Audio card) in order to overcome the maximum participant per conference limit.

The conferences that are part of a Cascading conference may be run:

- On the same MCU to overcome the maximum number of participants per conference (30 participants)
- On separate MCUs to utilize additional resources or connect participants to their local MCU

The MGC supports Star - H.243 and Multi Hierarchy (MIH) H.243 Cascading.

Star Cascading H.243

In Star Cascading, one conference is connected directly to other conferences, that are not connected directly to each other. The conferences can run on the same MCU (which is usually used when running a very large conference whose number of participants exceeds the maximum number of participants allowed in one conference) or on different MCUs.

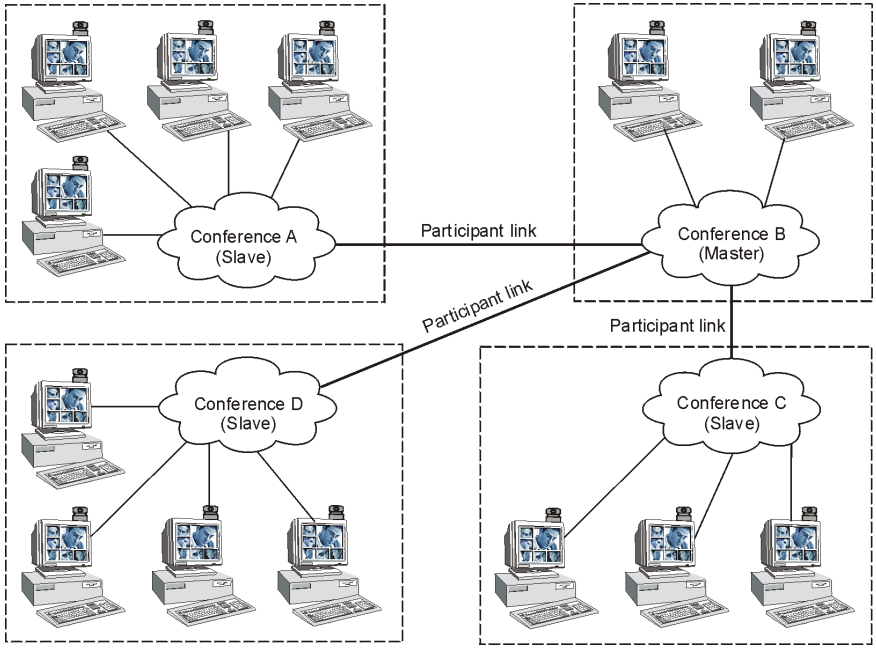


Figure 5-1: Star Cascading

A “participant” who dials from one MCU to another establishes the link between the conferences. The same “participant” is defined in the Master conference and the Slave conference. In one conference, the “participant” connection type is defined as dial-in, and the dial-in number is the number of the MCU where the “participant” is defined (MCU A). In the other conference, the “participant” connection type is defined as dial-out and the dial-out number is the number of the first MCU. A different “participant” is defined in the Master conference for each cascading link. In the example

shown above, Conference B, which is the Master conference, has five participants: two endpoints and three connections to slave conferences. Each of the slave conferences has one "participant" who acts as a link to the Master conference.

When the participants connect to the conference, the MCU assigns a terminal number to each of the participants. The number is composed of the conference number and a sequential number between 1 and 199. In a Cascading conference, the Master conference is always numbered as 1, while the Slave conference is assigned a number greater than 1. For example, in "Star Cascading" on page 5-2 the Conference B is assigned the number 1, and Conference A, Conference C and Conference D are assigned a number between 2 and 4, according to the order in which the Slave conferences connect to Master conference. The first participant who connects to the home conference is numbered as 1, the second as 2, etc. The MCU assigns numbers to all the terminals, even audio only terminals. If the endpoint supports H.243, it can also be identified by a name.

The "participant" who acts as a link between the Master conference and a Slave conference is identified as the link and is always numbered as 0.

Multi-Hierarchy (MIH) Cascading (H.243)

The H.243 Multi-Hierarchy cascading is similar to H.243 Star Cascading. However, instead of being limited to two levels (a Master and multiple Slaves), MIH cascading allows for multiple levels of Master-Slave relationships. Below is an example of a multi-hierarchy configuration:

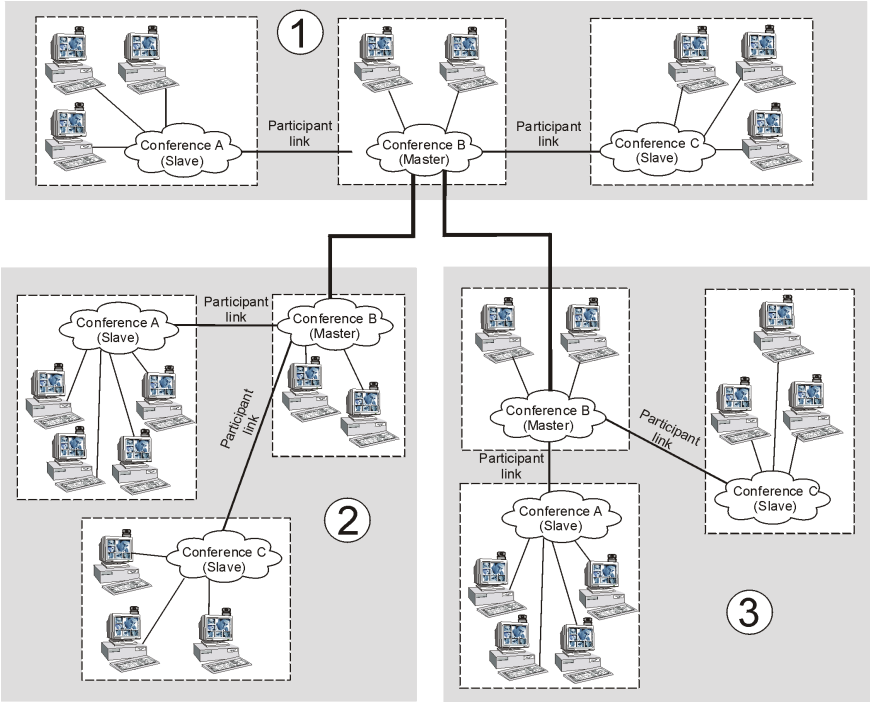


Figure 5-2: Multi-Hierarchy (MIH) Cascading

In the configuration above, there are multiple Master-Slave relationships, since some conferences act like masters to certain conferences while slaves to others. On the overall conference level, there is only one Master (1). In addition, there are conferences that act as both Master and Slave (2 and 3). These conferences (2 and 3) are Slaves to the conference Master (1), but they are Masters to the end-slaves.

MIH Cascading conferences allow:

- Full management of extremely large, distributed conferences
- Full Chair Control for all conferences and participants

When defining the properties of conferences taking part in a multi-hierarchy cascading conference, it is important to correctly define the hierarchy tree by selecting the appropriate cascading option (either Master or Slave). It is not recommended to select the *Auto* option, as the automatic selection of Master and Slave by the computer may result in conflicts.

When the link between conferences is connected, MIH capabilities are exchanged between the two conferences. If both conferences are MIH capable, full H.243 cascading capabilities are established.

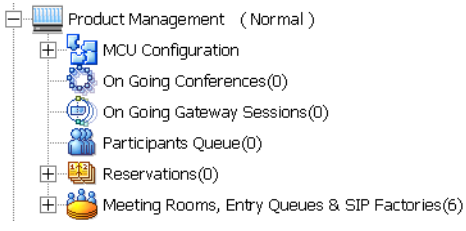
Setting Up Cascading Conferences

Setting up a cascading conference begins with defining a number of conferences that take part in the Cascading conference. The first conference, the "master" Master Conference is the link to any additional conferences; the second conference named Slave1, is linked to the Master Conference.

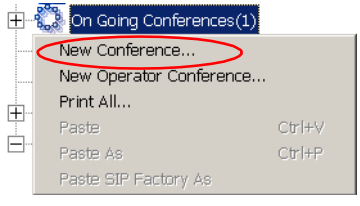
Defining Master and Slave Conferences

To define a Master Conference:

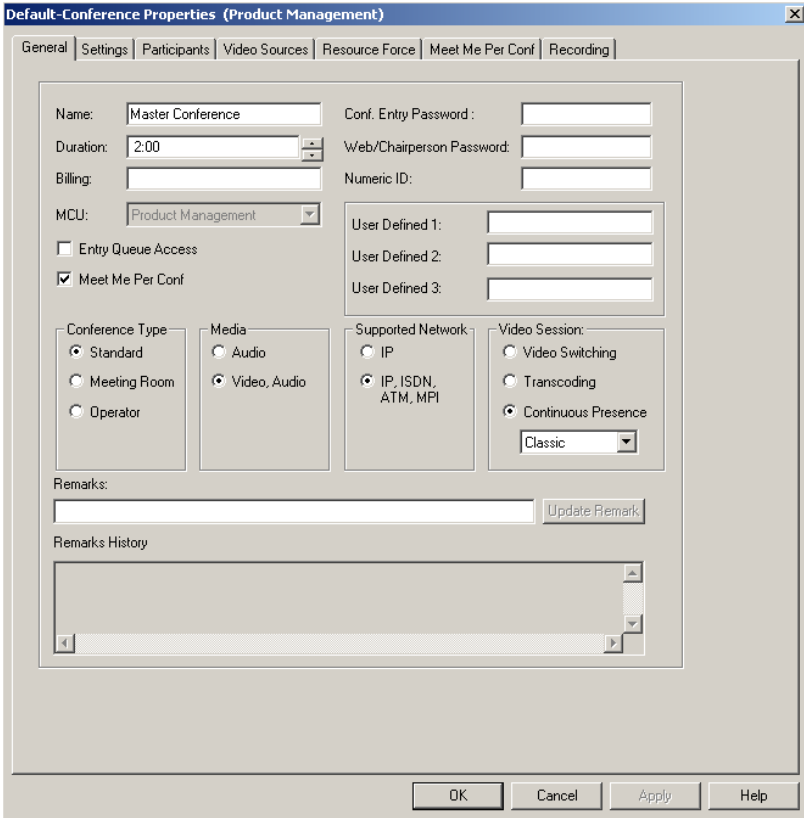
1. Connect to an MCU and expand its tree.



2. Right-click the *On Going Conferences* icon, and then click **New Conference.**

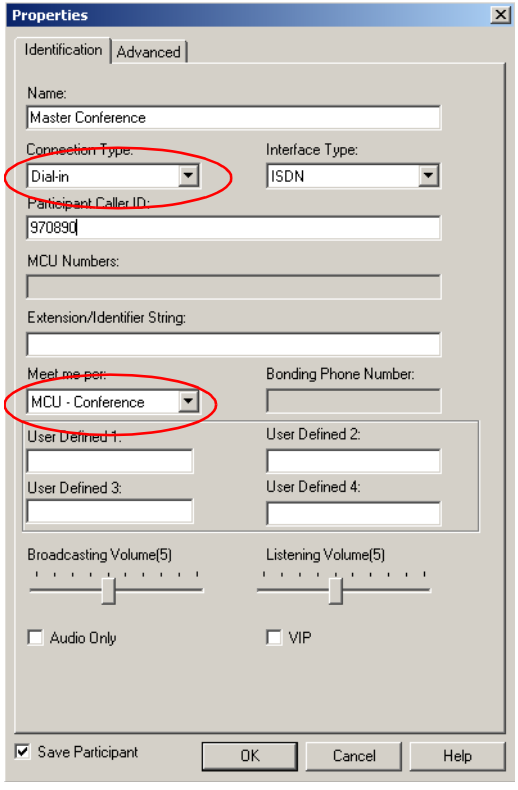


The *Conference Properties - General* dialog box opens.



3. Type the Master conference name in the *Name* field. Fill in the rest of the *General* tab fields as described in the MGC Manager's User's Guide, Volume I, Chapter 4, "Conference General Parameters".
4. Click the **Participants** tab to add participants to the Master Conference.

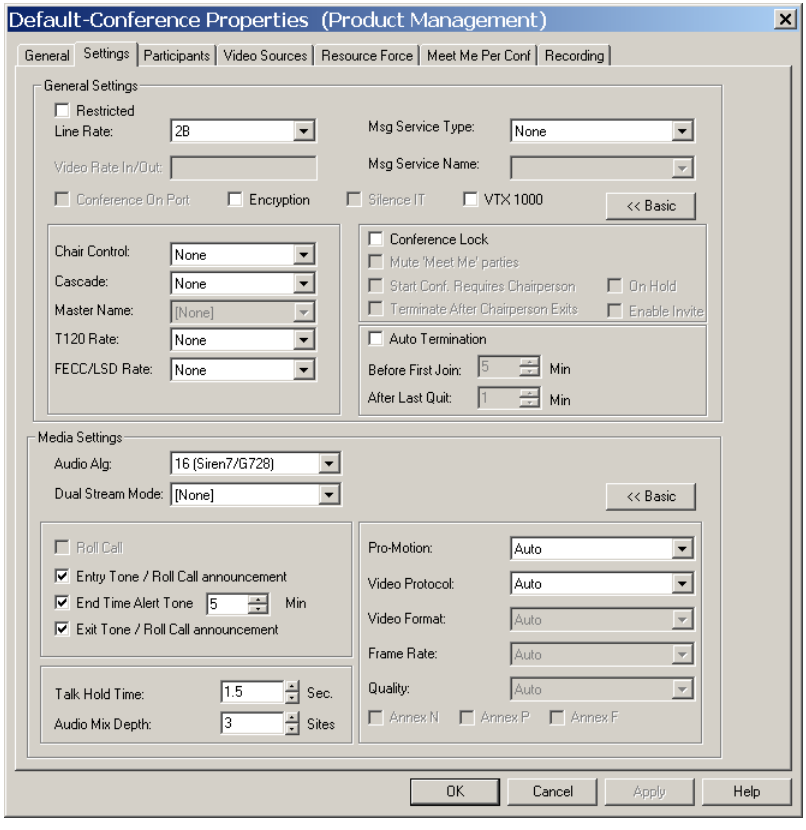
The *Participant Properties - Identification* dialog box opens.



5. Define the participants in the Cascading conference just as in any standard conference. For details see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".
6. Define the participant who is used as a link between the two conferences (Master and Slave) and select the appropriate connection type in the *Connection Type* field. It is recommended to define the slave participants as **Dial-in**.
7. Select the **MCU - Conference** option in the *Meet Me per* field if the *Connection Type* is set to **Dial-In**.
8. If the *Interface Type* is set to **ISDN** and the *Connection Type* is **Dial-in**, the *MCU Number* field is active. Enter the MCU number of the local MCU (the one that runs the Master conference) the *MCU Number* field.

9. If the Connection Type is set to **Dial-Out**, set the *Participant Phone Number* field to the number of the MCU running the second conference.
10. Define at least one participant for each slave conference.
11. Click the **Settings** tab to define the conference technical parameters.

    The *Conference Properties - Settings* dialog box opens.



12. Select **Master** from the *Cascade* field.

    Setting the *Cascading* field to **Auto** means that the conference status as *Master* or *Slave* will be defined later, once the connection with the second conference is established. The definition of Master and Slave is made according to the Cascading definition of the second conference, or according to the status negotiated between the two MCUs. In that case,

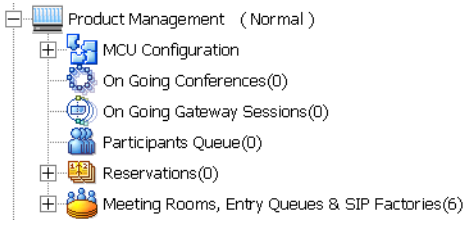
the conference is set as a Slave if the link from the second conference identifies itself as Master by sending a special message.

13. Complete the conference definition.

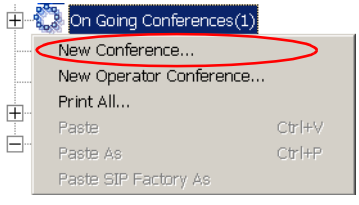
The conference name is automatically added to an outgoing H.323 call (as an H.323 ID in the '*call setup*' message). The message H.323 ID is then defined as an H.323 alias that matches all incoming parties to the conference.

To define a Slave Conference:

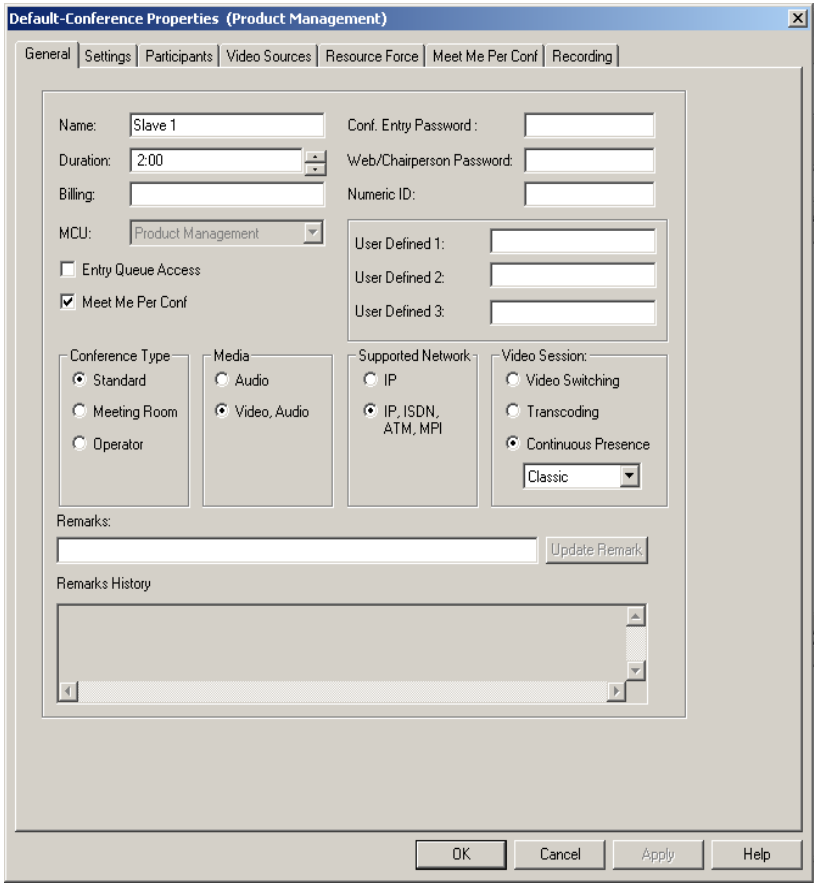
1. Connect to an MCU and expand its tree.



2. Right-click the *On Going Conferences* icon, and then click **New Conference**.

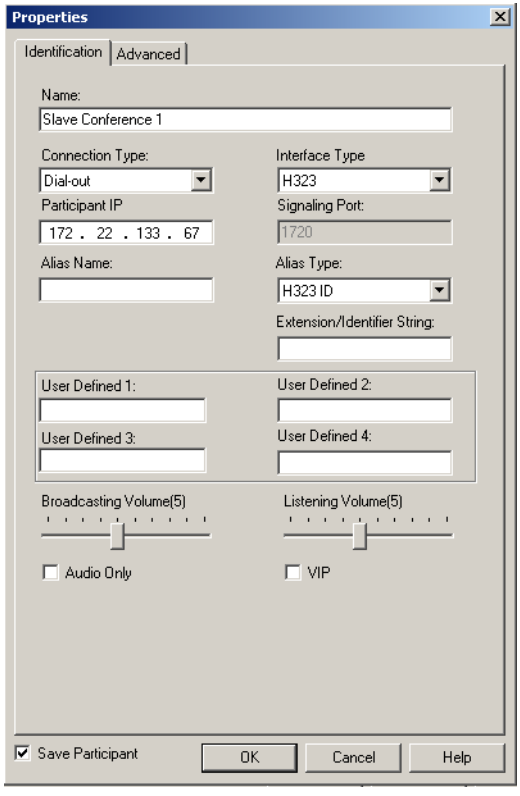


The *Conference Properties - General* dialog box opens.



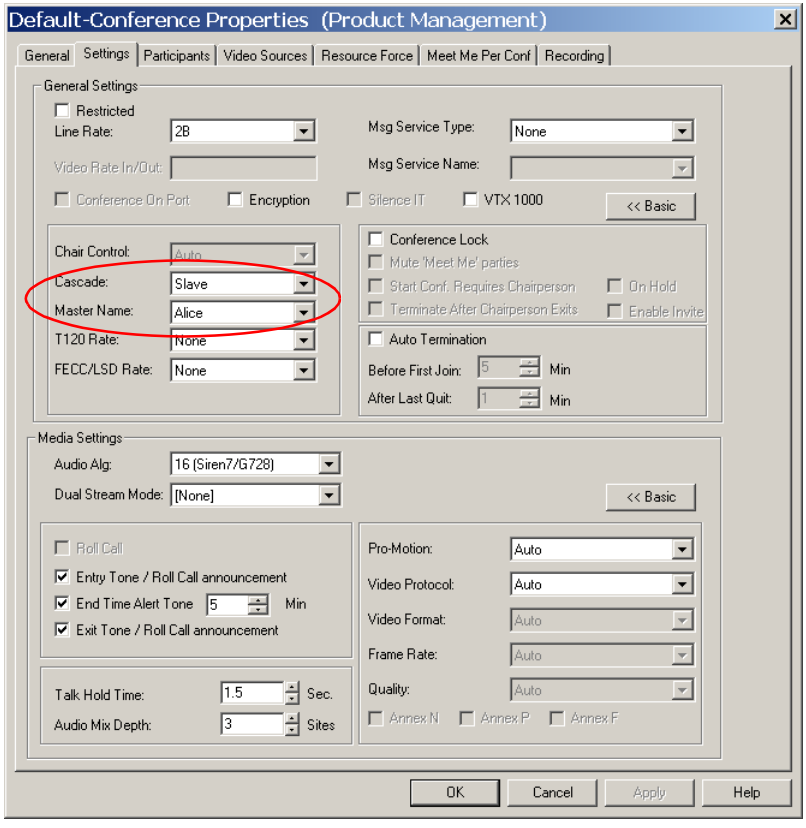
3. Type the Slave conference name in the *Name* field. Fill in the rest of the General tab fields as described in the MGC User's Guide, Volume I, Chapter 4, "Conference General Parameters".
4. Click the **Participants** tab to add participants to the Slave Conference.

The *Participant Properties - Identification* dialog box opens.



5. Define the participants in the Cascading conference just as in any standard conference. For details, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".
6. Define the participant who is used as a link between the two conferences (Master and Slave) and select **Dial-out** in the *Connection Type* field.
7. Enter the number of the MCU running the Master conference in the *Participant Phone Number* field.
8. Click the **Settings** tab to define the conference technical parameters.

The *conference Properties - Settings* dialog box opens.



9. Select **Slave** from the drop down menu in the *Cascade* field.
10. Select the name of the participant who acts as the link to the master conference from the *Master Name* drop-down list.
11. Complete the conference definition.

Defining other Conferences Participating in the Cascade Conference

There can be a number of Slave conferences. Only the first conference is defined as the *Master* conference. The other conferences are usually defined as *Slave* conferences. In each Slave conference, define one participant to be used as a link to the *Master* conference in each *Slave* conference. It is recommended to define these participants as dial-out participants, entering the number of the MCU running the Master conference in the *Participant Phone Number* field.

In Star cascading, if more than two conferences are defined, and they are set as *Auto* cascading, a multi hierarchy configuration may be established at the end of the cascading negotiations between the three MCUs running the conferences. If the multi-hierarchy (MIH) flag in the CHAIR/FECC section of the "system.cfg" file is set to NO, the conference will not start as scheduled.

H.239/People+Content in Cascading Conferences

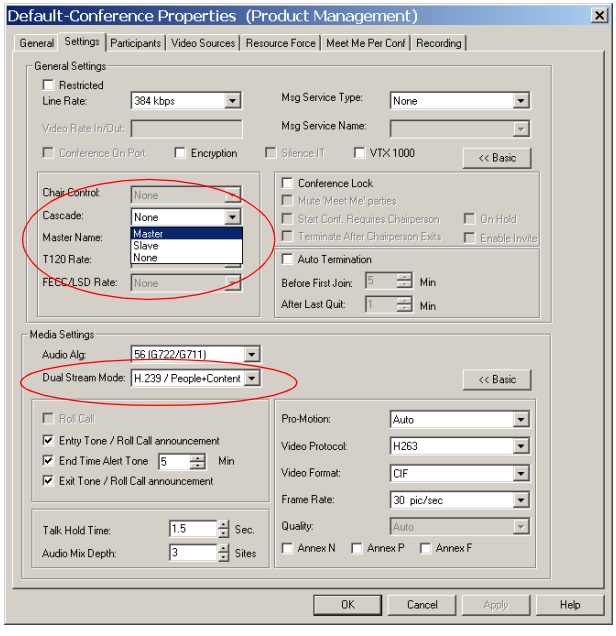
H.239/People+Content is available only in a Star Cascading topology, with Video Switching cascaded conferences.

In this mode, one conference must be defined as the Master conference that all the other conferences (slave) link to it. Start by defining the Master conference with links for all the slave conferences and then define each of the slave conferences, adding the appropriate link to the Master conference.

- H.239 can only be implemented when the H239 flag in the PEOPLE PLUS CONTENT section of the "system.cfg" is set to YES.
- All the conferences in the Star Cascading topology must have the same settings for the conference line rate, audio algorithm, video parameters (video protocol, video format, video frame rate, annexes, and ProMotion) and other conferencing features such as Encryption.
- Only two cascade options, Master and Slave, are available for H.320 H.239/P+C cascade. There is no Auto Cascade mode.
- IVR is supported. However, if *Node Type* in the *Participant Properties - Advanced* dialog box is set to *MCU*, no IVR service is available.
- H.243 site names for H.320 are supported.
- An H.320 link must be configured to H.263 using 30 Fps.

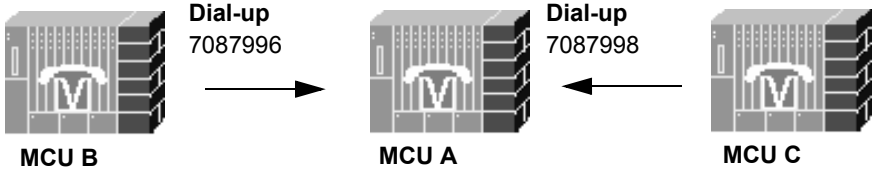
To enable H.239/People+Content in Video Switching Cascading conferences:

1. In the *Conference Properties - Settings* dialog box, in the *Dual Stream Mode* list, select **H.239/People+Content**.



2. In the *Cascade* field, select:
   - — **Master** - when defining the master conference.
   - — **Slave** - when defining the slave conference. If Slave is selected, in the *Master Name* field select the name of the participant used as a link to the Master conference.
3. Complete the conference definition.

An Example of Defining a Star Cascading Conference



MCU A
Master Conference - ConferenceA
Participant: Dial-in Link
Connection Type: Dial-in
Link In, Dial-in Number: 7087996
Link In 2, Dial-in Number: 7087998
Conference Properties - Settings tab
Cascade: Master

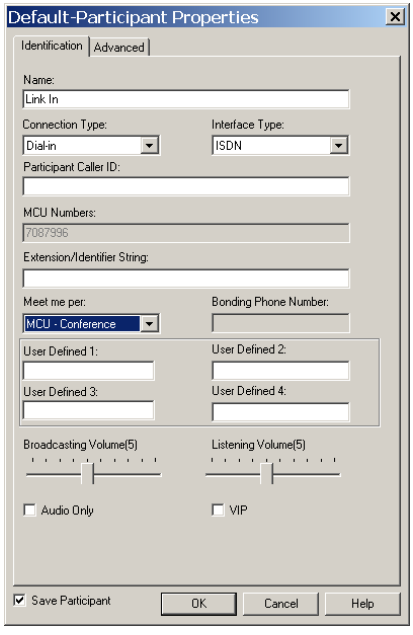
MCU B
Slave Conference - ConferenceB
Participant: Dial-out Link
Connection Type: Dial-out
Dial-out Number: 7087996
Conference Properties - Settings tab
Cascade: Slave
Master Name: Link Out

MCU C
Slave Conference - ConferenceC
Participant: Dial-out Link
Connection Type: Dial-out
Dial-out Number: 7087998
Conference Properties - Settings tab
Cascade: Slave
Master Name: Link out2

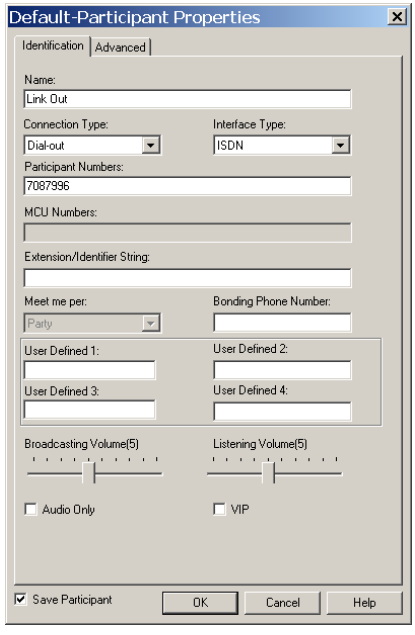
Figure 5-3: Star Cascading Flow

Illustrated is the Participant - Identification Properties as they should appear for the Dial-in and Dial-out links.

Check *Participant Properties - Advanced* to find out the Service Name of the Network Service being used

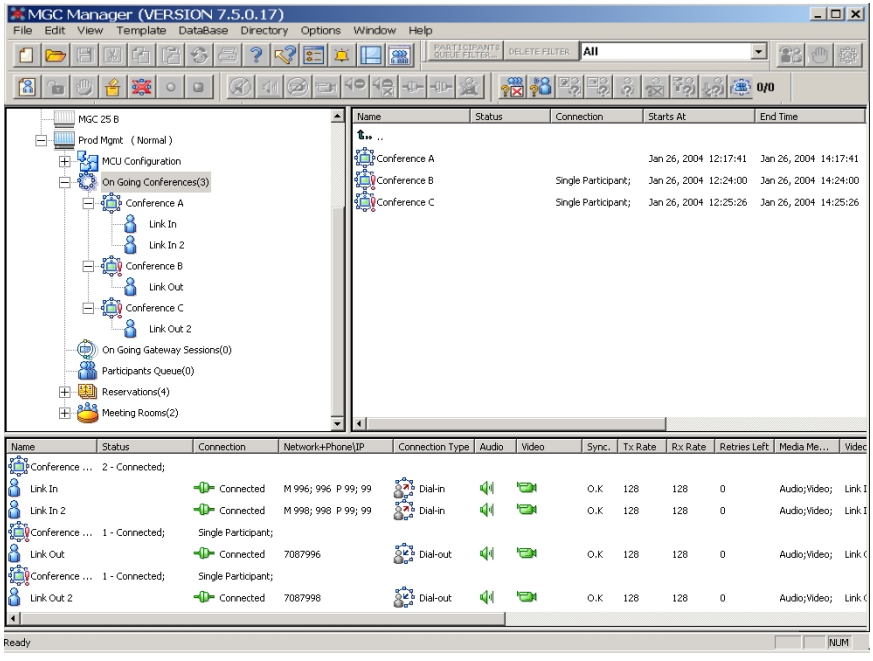


Participant Properties - Link In

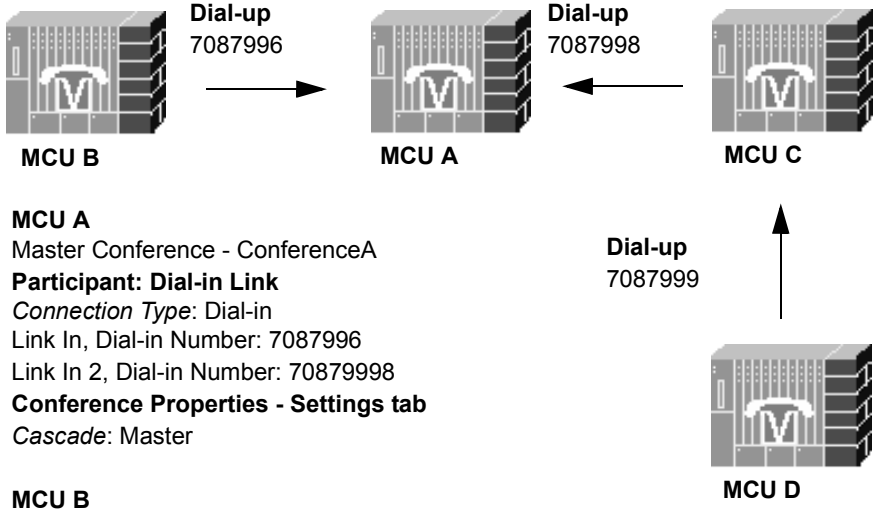


Participant Properties - Link Out

Shown below is the Star Cascading Conference as viewed in the MGC Manager Main window.


MGC Manager (VERSION 7.5.0.17)
File Edit View Template DataBase Directory Options Window Help
MGC 25 B
Prod Mgmt (Normal)
MCU Configuration
On Going Conferences(3)
Conference A
Link In
Link In 2
Conference B
Link Out
Conference C
Link Out 2
On Going Gateway Sessions(0)
Participants Queue(0)
Reservations(4)
Meeting Rooms(2)
Name Status Connection Starts At End Time
Conference A Jan 26, 2004 12:17:41 Jan 26, 2004 14:17:41
Conference B Single Participant; Jan 26, 2004 12:24:00 Jan 26, 2004 14:24:00
Conference C Single Participant; Jan 26, 2004 12:25:26 Jan 26, 2004 14:25:26
Name Status Connection Network+PhoneIP Connection Type Audio Video Sync. Tx Rate Rx Rate Retries Left Media Me... Video
Conference ... 2 - Connected;
Link In Connected M 996; 996 P 99; 99 Dial-in O.K 128 128 0 Audio;Video;
Link In 2 Connected M 998; 998 P 99; 99 Dial-in O.K 128 128 0 Audio;Video;
Conference ... 1 - Connected; Single Participant;
Link Out Connected 7087996 Dial-out O.K 128 128 0 Audio;Video;
Conference ... 1 - Connected; Single Participant;
Link Out 2 Connected 7087998 Dial-out O.K 128 128 0 Audio;Video;
Ready
NUM

An Example of Defining a Multi-Hierarchy Cascading Conference



MCU A
Master Conference - ConferenceA
Participant: Dial-in Link
Connection Type: Dial-in
Link In, Dial-in Number: 7087996
Link In 2, Dial-in Number: 70879998
Conference Properties - Settings tab
Cascade: Master

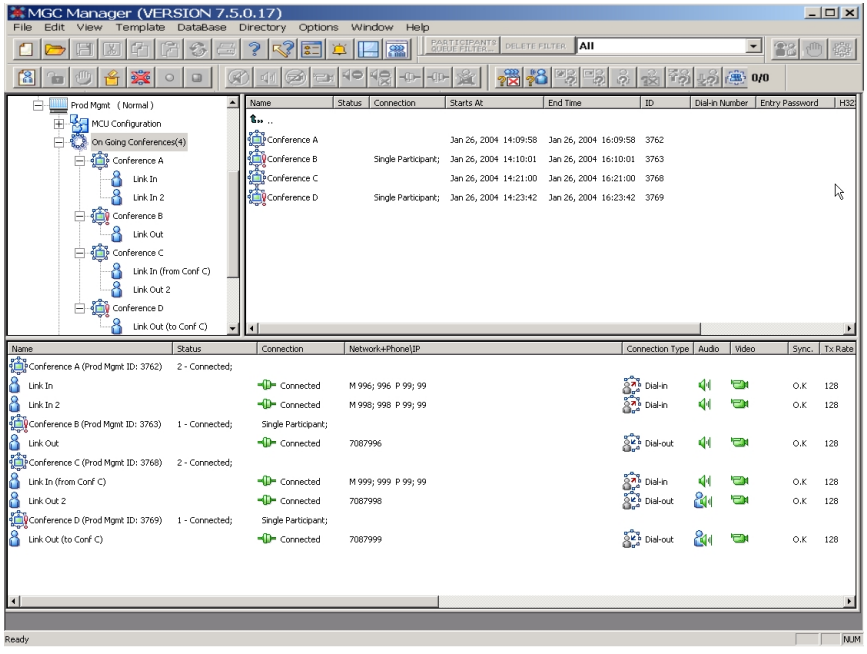
MCU B
Slave Conference - ConferenceB
Participant: Dial-out Link
Connection Type: Dial-out
Dial-out Number: 7087996
Conference Properties - Settings tab
Cascade: Slave
Master Name: Link Out

MCU C
Master/Slave Conference - ConferenceC
Participant: Dial-in Link
Connection Type: Dial-in
Link In (from conf D), Dial-in Number: 7087999
Participant: Dial-out Link
Connection Type: Dial-out
Dial-out Number: 7087998
Conference Properties - Settings tab
Cascade: Slave
Master Name: Link Out 2

MCU D
Slave Conference - ConferenceD
Participant: Dial-out Link
Connection Type: Dial-out
Dial-out Number: 7087999
Conference Properties - Settings tab
Cascade: Slave
Master Name: Link Out (to Conf C)

Figure 5-4: MIH Cascading Flow

Shown below is the Multi-Hierarchy Cascading Conference as viewed in the MGC Manager Main window.

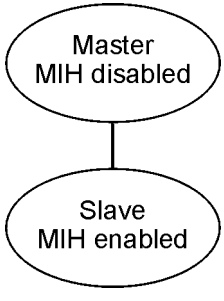

MGC Manager (VERSION 7.5.0.17)
File Edit View Template DataBase Directory Options Window Help
Prod Mgmt (Normal)
MCU Configuration
On Going Conferences(4)
Conference A
Link In
Link In 2
Conference B
Link Out
Conference C
Link In (from Conf C)
Link Out 2
Conference D
Link Out (to Conf C)
Name Status Connection Starts At End Time ID Dial-in Number Entry Password H32
Conference A Jan 26, 2004 14:09:58 Jan 26, 2004 16:09:58 3762
Conference B Single Participant; Jan 26, 2004 14:10:01 Jan 26, 2004 16:10:01 3763
Conference C Jan 26, 2004 14:21:00 Jan 26, 2004 16:21:00 3768
Conference D Single Participant; Jan 26, 2004 14:23:42 Jan 26, 2004 16:23:42 3769
Name Status Connection Network+Phone\IP Connection Type Audio Video Sync. Tx Rate
Conference A (Prod Mgmt ID: 3762) 2 - Connected;
Link In Connected M 996; 996 P 99; 99 Dial-in O.K 128
Link In 2 Connected M 998; 998 P 99; 99 Dial-in O.K 128
Conference B (Prod Mgmt ID: 3763) 1 - Connected; Single Participant;
Link Out Connected 7087996 Dial-out O.K 128
Conference C (Prod Mgmt ID: 3768) 2 - Connected;
Link In (from Conf C) Connected M 999; 999 P 99; 99 Dial-in O.K 128
Link Out 2 Connected 7087998 Dial-out O.K 128
Conference D (Prod Mgmt ID: 3769) 1 - Connected; Single Participant;
Link Out (to Conf C) Connected 7087999 Dial-out O.K 128
Ready
NUM

Managing a Cascading Conference

A cascaded conference is started in the same way as a standard conference. Before the linking participant is connected, each conference is run as a standard, separate conference. Once the connection between two or more conferences is established, the MCUs exchange messages establishing the status of each conference as either a Master or a Slave conference. The MCUs also recognize and assign a number to each terminal participating together in the conference. If one conference is set as Auto and the other conference is set as Slave, after the messages are exchanged between the MCUs running both conferences, the MCU running the Auto conference is set as Master. If both conferences are set to Auto, each MCU sends a random number. The conference running on the MCU that sends the lowest number is set as the Master conference. The terminal numbers as well as any existing names are set accordingly and are sent to all the participants in the collective conference.

If one conference does not support MIH, the following scenarios may occur:

- The MIH enabled conference becomes the Master conference, and the MIH disabled conference becomes the Slave. In that case, full H.243 cascading capabilities are established.
- The MIH enabled conference becomes the Slave while the MIH disabled conference becomes the Master. In that case, a conflict exists between the conferences, and only simple cascading is enabled.



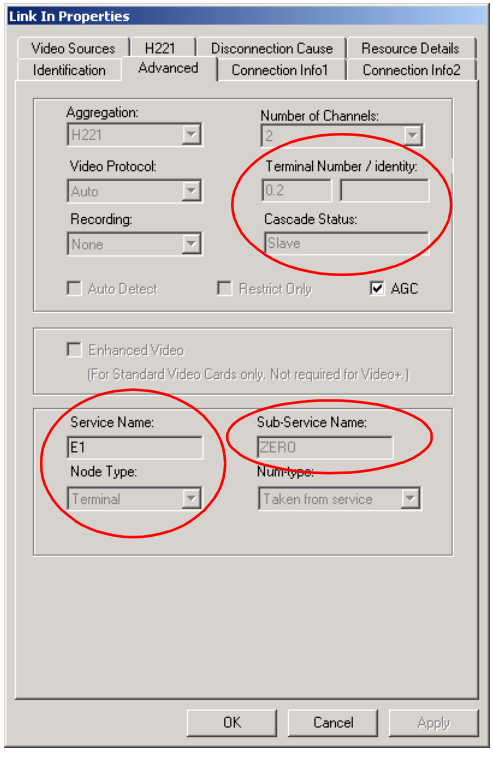
All the operations available in Star cascading such as token management and chair operations are available in the Multi-Hierarchy cascading.

When two branches of MCUs are connected or disconnected, all the MCU numbers in these branches are reassigned. When the Slave MCU gets a new MCU number, the renumbering process ends. During the renumbering process, all the tokens are released and all the messages to the Master are deleted.

Monitoring Participants in a Cascading Conference

When running a cascading conference, once the connection between two or more conferences is established, the MCUs exchange messages establishing the status of each conference either as a Master or a Slave, and number all the terminals participating in the combined conference.

The number of the endpoint, as assigned by the MCU can be viewed in the *Participant Properties – Advanced* dialog box.



The following parameters display the Cascading status:

Table 5-1: Participant Properties Cascading Parameters

Option	Description
Terminal Number / identity	Displays the terminal number as assigned by the MCU. The first number indicates the terminal's sequential number. The second number indicates the MCU number.
Cascade Status	*Master* indicates that the participant is part of a slave conference and is used as a link to a Master conference. *Slave* indicates that the participant is part of a Master conference and is used as a link to a Slave conference.
Service Name	Displays the name of the default Network Service.
Sub-Service Name	Displays the terminal name (if one exists).
Node Type	Terminal indicates that the participant is not used as a link between Cascading conferences.

If the participant is the link between two conferences, the terminal number is 0 and the conference properties to which it is linked are shown. The Terminal number of a link to a second Slave conference will be 0,2
(0 – terminal number and 2 is the second conference) and the Cascade Status is Slave (which is the status of the second conference).

If the participant is part of the Master conference (but not the link), the MCU number is 1, and the *Cascading Status* is *Master*.

When participants connect or disconnect from the conference, the participants' list on all the endpoints is updated accordingly.

In addition, the cascading status of a conference can be viewed in the *Conference Properties – Settings* dialog box.

If the Master conference is terminated, the slave conference is run as a standard conference. In such a case, the MCU number is changed to 1, and numbers of all the terminals connected to this MCU are updated accordingly.

H.243 Chair Control

Chair Control enables an endpoint to control the conference and other conference participants. The endpoint that has control over the conference (the chairperson) can perform the following operations:

- Disconnect participants.
- Video Force – select the endpoint to be seen by the other participants. Only one participant can be selected. This participant is displayed in the top left window. In addition, the chairperson or any conference participant can video force a certain participant in his/her video layout. Since the list of participants is displayed to the chairperson only, this feature is usually linked to the chairperson. The request from the Chair is accepted even if the entire conference is forced to see another party.
- Terminate the conference.

These operations are performed by the MCU subsequent to an appropriate request from the chairperson.

The control over the conference is granted to an endpoint by means of tokens. An endpoint sends a chair request to the MCU. If no other participant in the conference is holding the chair token, the MCU assigns the chair token to the endpoint requesting it. When another participant holds the chair token, the MCU rejects the request. The chairperson may release the chair token to let the MCU assign control to another endpoint. Once the chair token is free, the endpoint may request it again, if no other endpoint has requested it. The chair control token may be withdrawn by the MCU. In that case, the chair operations are stopped immediately.

In a cascading conference, when a participant connected to a conference run by an MCU defined as *Slave* requests the chair token from the MCU, the slave MCU checks first if the chair token is assigned to another participant in its slave conference. If another participant is holding the token, the request for the chair token is rejected. If no other participant in the conference run by the slave MCU holds the token, the request is transferred to the Master MCU, which checks if the chair token is free. If the token is not assigned to any other participant in any conference belonging to the cascading conference, the chair token is assigned to the participant. If the chair token is assigned to another participant, the master MCU sends a reject message to the slave MCU, which in turn sends the message to the participant.

In H.320 Master/Slave cascading conferences, only the *6.4* (fixed rate) option is available for *FECC/LSD*. In that conference, when a request for the data token is invoked by an operator connected to the slave MCU, the slave MCU checks if another participant possesses the data token. If another participant does possess the data token, the request is rejected. If not, the request is transferred to the Master MCU, which opens the FECC/LSD channel of all the participants in the Master conference.

When participants connect to the conference, the MCU assigns a terminal number to each of them. The MCU sends these numbers to all the terminals connected to the conference, including terminals connected to the slave MCUs. If a terminal has a name assigned to it, the MCU will also display this name together with the terminal number.

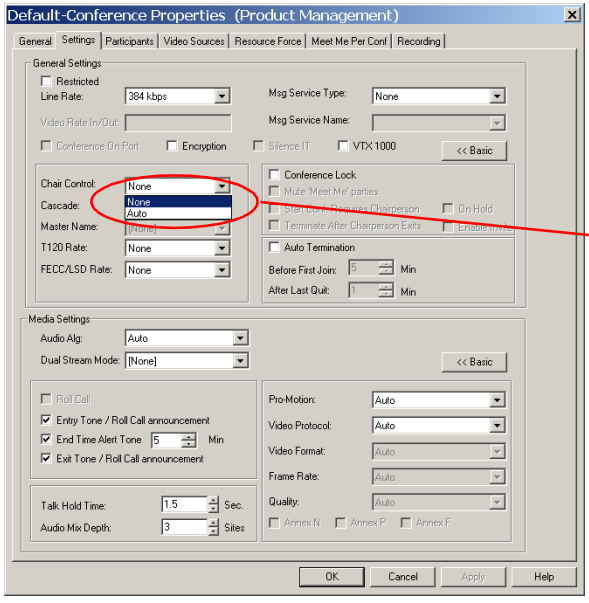
The following information is available to the chair control terminal:

- The numbers assigned to each of the participants in the conference. The number is composed of the MCU number and the terminal number. A list of all the terminal numbers is displayed on the chairperson's endpoint as well as the names of all the other endpoints that support the H.243 standard. Endpoint names (when available) are also displayed together with the terminal numbers.
- Requests for chair control from other participants.

The list of endpoint numbers and names is updated by the MCU on all the endpoints when participants connect or disconnect from the conference.

In Continuous Presence mode, when the video layout is different from full screen, the terminal number of the source video for each window is not indicated in the endpoint's video windows (VIN2 mode).

The Chair Control option is enabled in the *Conference Properties – Settings* dialog box.



***None** is selected to disable the Chair Control option*
***Auto** enables the Chair Control option*

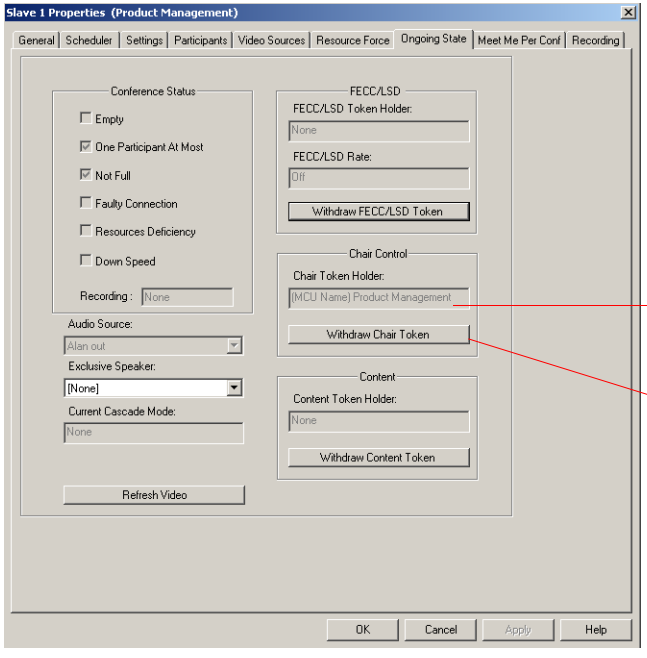
To enable the *Chair Control* select **Auto** from the drop-down list. When the Chair Control option is enabled, any participant with an H.243 compliant terminal can request the control token during the conference.

The following operations cannot be performed during an On Going Conference:

- The chairperson cannot connect a new participant.
- The chairperson cannot reconnect a disconnected participant.
- Lecture Mode cannot be accessed in Continuous Presence mode.

Withdrawing the Chair Token during a Conference

During an On Going Conference in which the Chair Control option is enabled, the *Conference Properties – On Going State* dialog box displays the name of the participant who currently holds the chair token and acts as the conference chairperson.



The name of the participant (or MCU) holding the Chair token

Used to withdraw the chair token from the endpoint currently holding it

The *Chair Control* box displays the name of the participant holding the chair token. If the chair token is currently not assigned to any participant, the name of the MCU appears in the *Chair Control* box. **None** indicates that the Chair Control option was disabled during the conference setup.

Clicking on the **Withdraw Chair Token** button enables you to withdraw the chair token from a participant and return it to the MCU. In that case, the participant loses the ability to control the conference. This is usually done when there are problems releasing the chair token from one participant for the use of other participants.

6

Using a Database

The database includes various data tables used by the MGC Manager operators and WebCommander users who access the database via the local network or via a Web browser. The database is divided into two modules: Administrative Tables and User Tables.

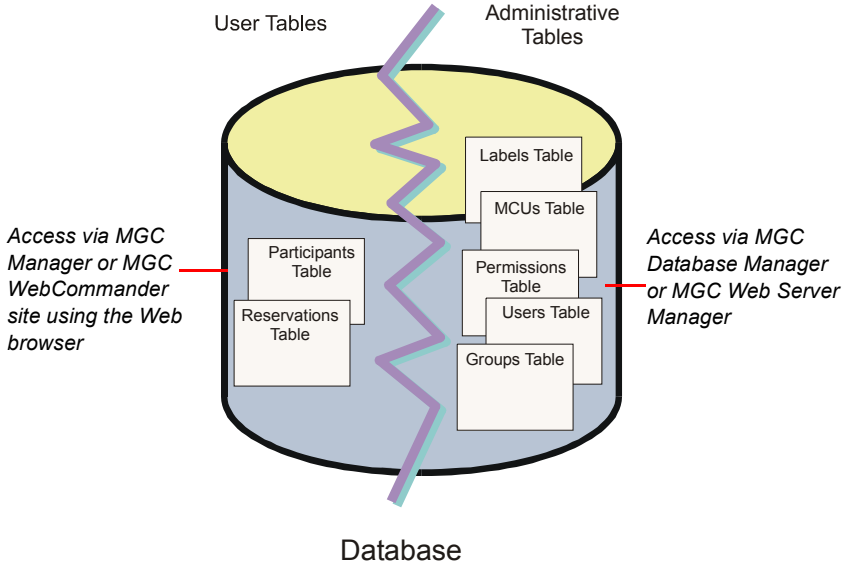


Figure 6-1: Database Structure

- *Administrative Tables* – the configuration tables that enable the administrator and users who have the appropriate access rights to define system Defaults, Permissions, Users, Groups and labels. In addition, the administrator can perform maintenance and configuration tasks relating to the database itself. The configuration is performed through the MGC Database Manager application.

- *User Tables* – The User Tables module includes the Participant and Reservation templates that are organized in Groups. Users can only manage templates assigned to Groups to which they have access rights. The Groups and their access rights are defined in the MGC Database Manager module or directly in the *Reservations* or *Participants in Database* windows. The User Tables form the core of the MGC Manager application.

Database Configuration

You are required to configure your network prior to proceeding with the Database configuration.

Reservation and Participant parameters may be stored in template files or in databases. The template files are the MGC Manager proprietary tool to organize data. Therefore, data cannot be easily transferred from external databases to the template files. Using Microsoft Access or SQL databases to organize data allows the data to be easily used and shared by external applications. As with templates, the Reservation and Participant database may be installed on the LAN server or on the local computer running the MGC Manager.

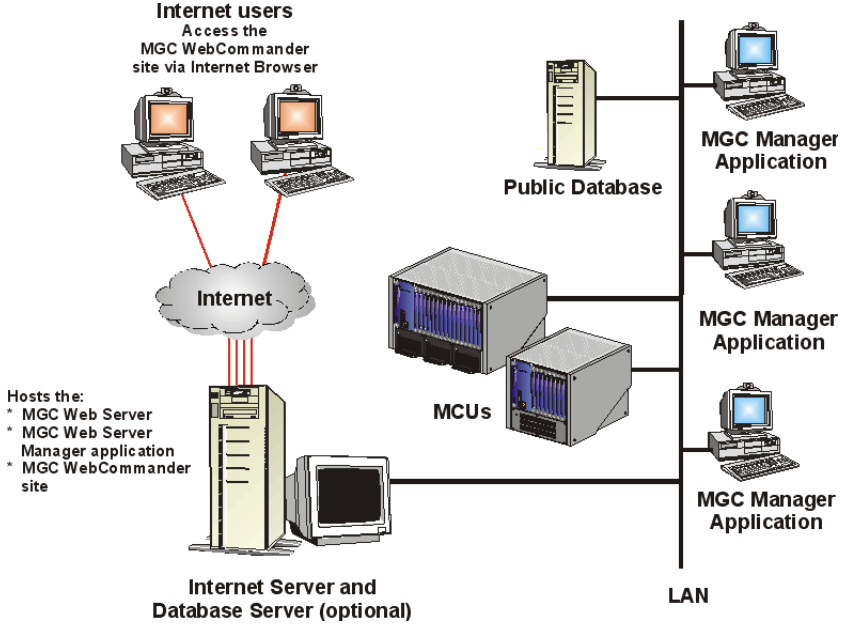


Figure 6-2: Data Flow

Figure 6-2 describes the system structure for public databases that are used by all the users. In this configuration, several operator workstations running the MGC Manager application are connected to one or more MGC units. The public databases are installed on a LAN server, and they can be accessed by all the MGC Manager users on the network and by the WebCommander site via the Internet using the Web browser. In addition, operators can have a

personal database installed on their computers. Unless defined as shared, the personal database cannot be accessed by other network users, and can be used only from the specific operator workstation.
Access to the personal and public database is determined during the configuration stage.
This chapter describes the database configuration in the MGC Manager.

Important!
When both the MGC WebCommander and the MGC Manager applications use the same database, the administrator tables defined in the MGC Web Server Manager apply to the MGC Database Manager and vice versa. Therefore, the various tables may include parameters that apply only to the WebCommander and others that apply only to the MGC Manager. Users may access the database via the MGC Web Server Manager or the MGC Database Manager and perform changes in the administrator tables. These changes will apply to both applications.

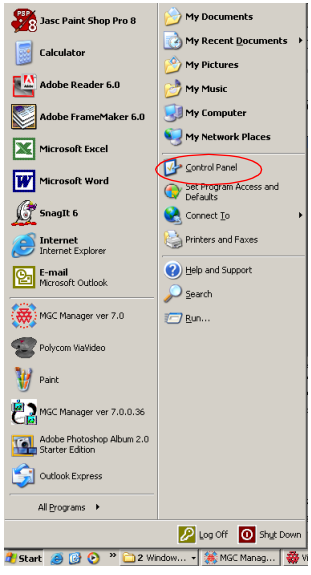
Registering the Access Database in ODBC Data Sources

During installation, an Access file is installed on the local hard disk. A central database may also be installed separately on the network server. In both cases, the database file must be registered in the ODBC of the operator workstation in order to access it.

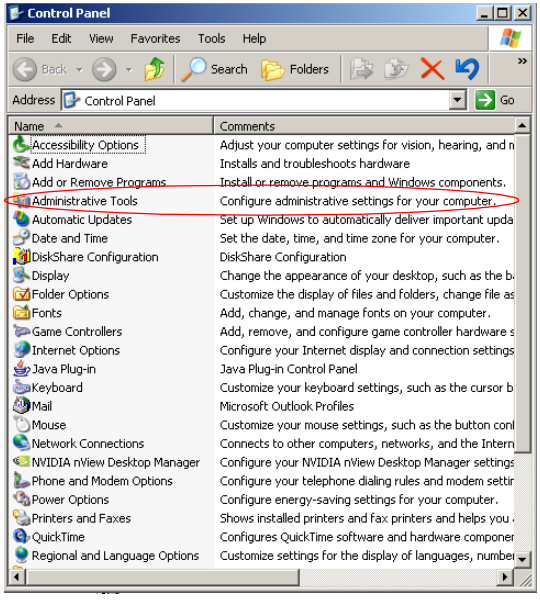
The Access database can be registered either from the ODBC Control Panel or within the MGC Manager application.

To register the database in the ODBC Control panel:

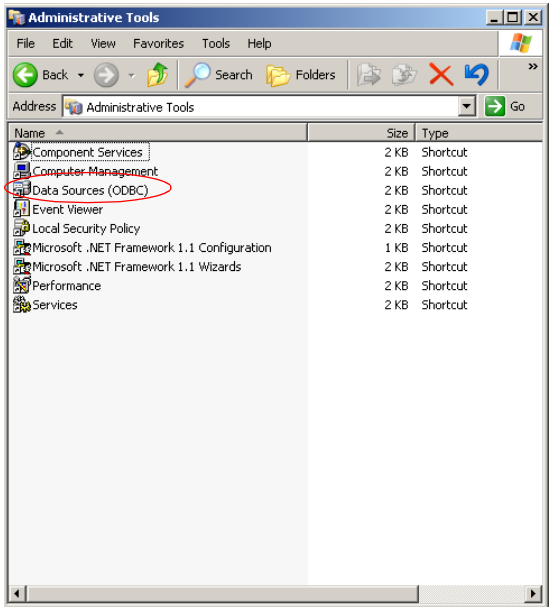
1. On the *Start* menu, click **Control Panel**.



The *Control Panel* window opens.


Control Panel
File Edit View Favorites Tools Help
Back
Search
Folders
Address
Control Panel
Go
Name
Comments
Accessibility Options
Adjust your computer settings for vision, hearing, and
Add Hardware
Installs and troubleshoots hardware
Add or Remove Programs
Install or remove programs and Windows components.
Administrative Tools
Configure administrative settings for your computer.
Automatic Updates
Set up Windows to automatically deliver important upda
Date and Time
Set the date, time, and time zone for your computer.
DiskShare Configuration
DiskShare Configuration
Display
Change the appearance of your desktop, such as the b
Folder Options
Customize the display of files and folders, change file as
Fonts
Add, change, and manage fonts on your computer.
Game Controllers
Add, remove, and configure game controller hardware
Internet Options
Configure your Internet display and connection settings
Java Plug-in
Java Plug-in Control Panel
Keyboard
Customize your keyboard settings, such as the cursor b
Mail
Microsoft Outlook Profiles
Mouse
Customize your mouse settings, such as the button con
Network Connections
Connects to other computers, networks, and the Intern
NVIDIA nView Desktop Manager
Configure your NVIDIA nView Desktop Manager settings
Phone and Modem Options
Configure your telephone dialing rules and modem settir
Power Options
Configure energy-saving settings for your computer.
Printers and Faxes
Shows installed printers and fax printers and helps you
QuickTime
Configures QuickTime software and hardware componer
Regional and Language Options
Customize settings for the display of languages, numbe

2. In the *Control Panel* window, double-click the **Administrative Tools** option. The *Administrative Tools* window opens.


Administrative Tools
File Edit View Favorites Tools Help
Back Search Folders
Address Administrative Tools
Go
Name Size Type
Component Services 2 KB Shortcut
Computer Management 2 KB Shortcut
Data Sources (ODBC) 2 KB Shortcut
Event Viewer 2 KB Shortcut
Local Security Policy 2 KB Shortcut
Microsoft .NET Framework 1.1 Configuration 1 KB Shortcut
Microsoft .NET Framework 1.1 Wizards 2 KB Shortcut
Performance 2 KB Shortcut
Services 2 KB Shortcut

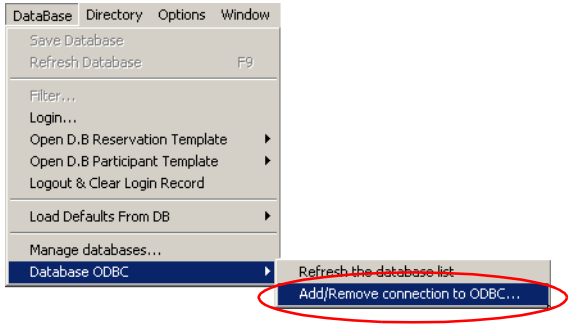
3. Double-click the **Data Sources** (**ODBC)** option.

   The *ODBC Data Source Administrator* dialog box opens.

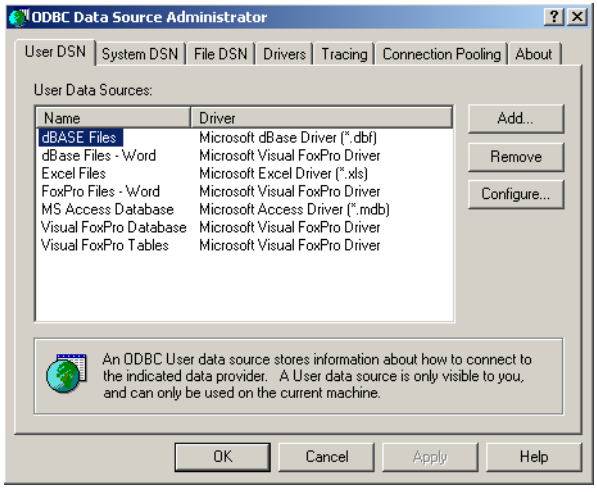
   See step 2 in the next procedure for the continuation of the registration procedure.

To register the database from the MGC Manager application:

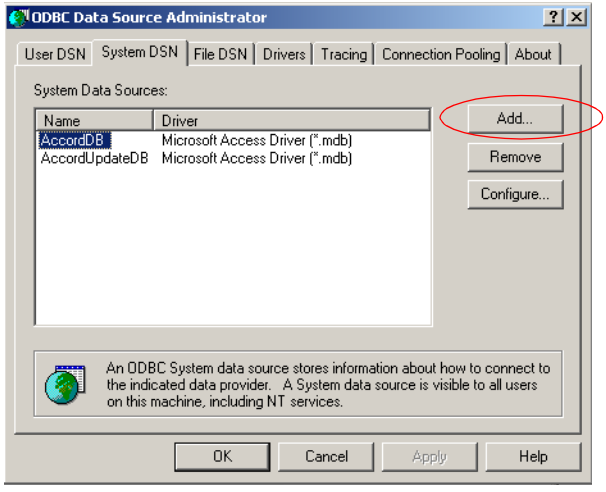
1. Open the MGC Manager application.
2. On the *Database* menu, click **Database ODBC,** and then click **Add/ Remove connection to the ODBC**.



The *ODBC Data Source Administrator* dialog box opens.

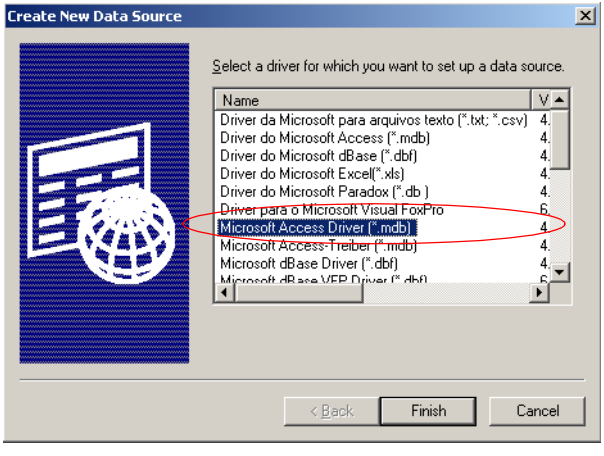


3. Click the **System DSN** tab.



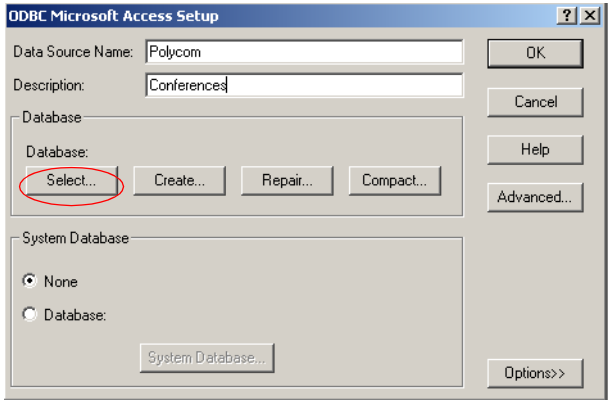
4. Click the **Add** button.

   The *Create New Data Source* dialog box opens.

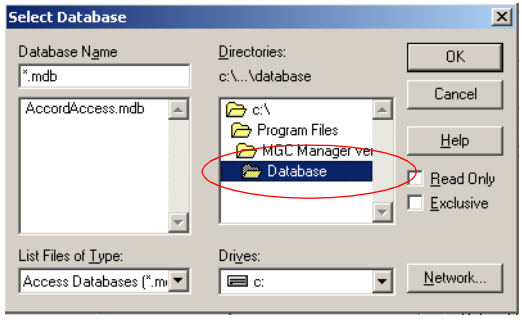

Create New Data Source
Select a driver for which you want to set up a data source.
Name
Driver da Microsoft para arquivos texto (*.txt; *.csv)
Driver do Microsoft Access (*.mdb)
Driver do Microsoft dBase (*.dbf)
Driver do Microsoft Excel(*.xls)
Driver do Microsoft Paradox (*.db)
Driver para o Microsoft Visual FoxPro
Microsoft Access Driver (*.mdb)
Microsoft Access-Treiber (*.mdb)
Microsoft dBase Driver (*.dbf)
< Back
Finish
Cancel

5. Select **Microsoft Access Driver** from the database type list, and then click **Finish**.

The *ODBC Microsoft Access Setup* dialog box opens.



6. In the *Data Source Name* box, enter a name that will identify the database file in the MGC Manager Database.
7. Enter the description of the database (optional).
8. Click the **Select** button.
   The *Select Database* dialog box opens.



9. Select the database file supplied with the MGC Web Server Manager (**AccordAccess.mdb**) located in the MGC Manager\DataBase folder, and then click **OK**.

One Access database may be used by both the MGC WebCommander application and the MGC Manager application provided the same database is selected for both applications. If the MGC Manager is installed first, select the database configured in the MGC Manager ODBC. If the WebCommander Server Manager application is installed first, select the database configured in the MGC WebServer application. In both cases, the database may be installed on a network server other than the one used for the Web Server.
In both cases, the database must be installed on a disk defined as Shared or on one of the network disks that can be accessed by all MGC Manager and MGC WebCommander users.

The system returns to the *ODBC Microsoft Access Setup* dialog box, displaying the name and path of the selected database file.

10. Click **OK** to return to the *ODBC Data Source Administrator - System DSN* dialog box.
11. Click **OK** to confirm and exit the ODBC settings.
12. If you are registering the database in the ODBC from within the MGC Manager application, an update window appears.

    Select **Yes** to refresh the list of the databases available to the operator. Select **No** to refresh the database list manually. In that case, the database will not be available to the user until the list is refreshed manually.

    If you select **Yes**, the system attempts to open all the databases registered in the ODBC. If these Databases are protected by a Name and Password, a *Login* dialog box is displayed.

    Since the MGC database is not password protected, select **Cancel** in all the Login dialog boxes that are displayed by the system.
13. If you register the database from the ODBC Control Panel, you must refresh the database list manually in the MGC Manager application, by selecting **Database ODBC** and then **Refresh the Database List** from the *Database* menu.

    The system attempts to open all the databases registered in the ODBC. If these Databases are protected by a Name and Password, a *Login* dialog box is displayed.

    Select **Cancel** in all the Login dialog boxes that are displayed by the system.

SQL Server Configuration and Registration (Optional)

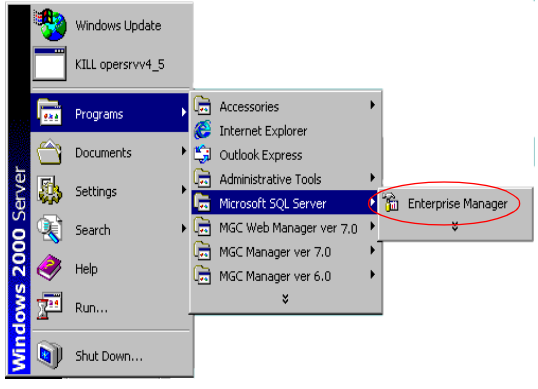
This step is required only if you have an SQL Server installed in your configuration. Otherwise, skip this step.

Restoring the SQL Database

In this step, the SQL database supplied with the MGC Manager application is restored and configured in the SQL Server application.

To restore and configure the SQL database:

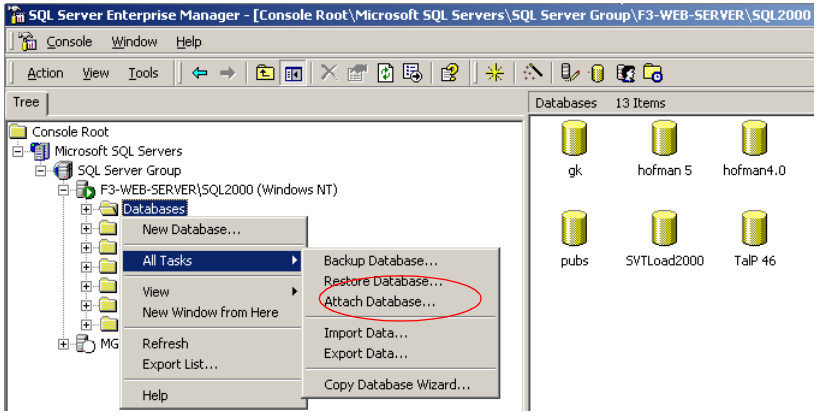
1. On the *Start – Programs* menu, click **Microsoft SQL Server**, and then click **Enterprise Manager**.



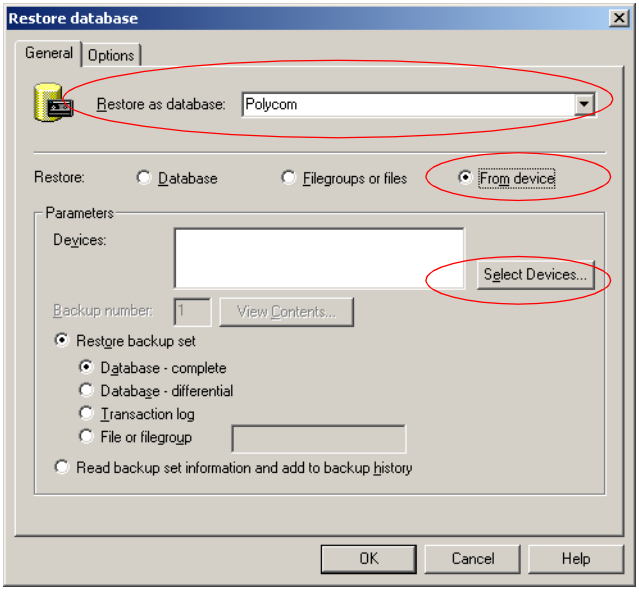
   The *SQL Server Enterprise Manager* window opens.

2. Click the plus [+] icon next to the **Microsoft SQL Server** to expand the list.
3. Click the plus [+] icon next to the **SQL Server Group** to expand the list.
4. Click the plus [+] icon next to the <**PC Name**> to expand the list.

5. Right-click the **Database folder** icon, and then click **All Tasks – Restore Database** from the pop-up menu.

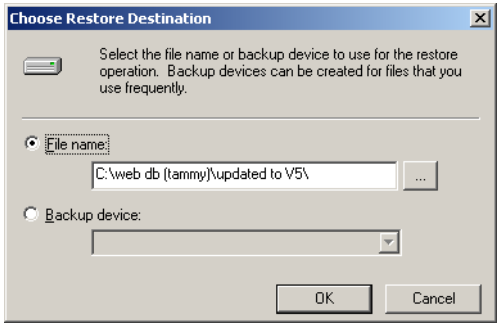


The *Restore database – General* dialog box opens.



6. In the *Restore as database* box, enter a name to identify the database.
7. Make sure that the **From device** radio button is selected.

8. Click the **Select Devices** button.
   The *Choose Restore Devices* dialog box opens.


Choose Restore Destination
Select the file name or backup device to use for the restore operation. Backup devices can be created for files that you use frequently.
File name:
C:\web db (tammy)\updated to V5\
...
Backup device:
OK
Cancel

9. In the *File Name* box, enter the name and path of the SQL database file (**AccordSQLDB**) installed with the MGC Manager application, to be restored in the SQL Server Manager. The database file is found in the MGC Manager\Database folder.

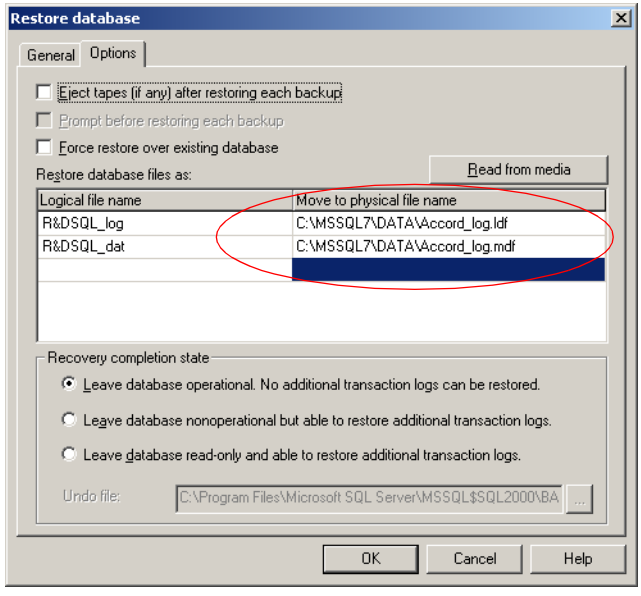
   Alternatively, click the **Browse** button ... to select the database file from the file browser.

One SQL database may be used by both the MGC WebCommander application and the MGC Manager application, providing the same database is selected for both applications. If the MGC Manager is installed first, select the database configured in the MGC Manager ODBC. If the WebCommander Server Manager application is installed first, select the database configured here as the database for the MGC Manager application. In both cases, the database may be installed on a network server other than the one used for the Web Server.

10. Click **OK** to confirm.
    The system returns to the *Choose Restore Device* dialog box, displaying the path and name of the database file to be restored.
11. Click **OK** to confirm.

    The system returns to the *Restore database – General* dialog box.

12. Click the **Options** tab to verify that the appropriate path of the SQL server is selected. If it is incorrect, type the correct path.

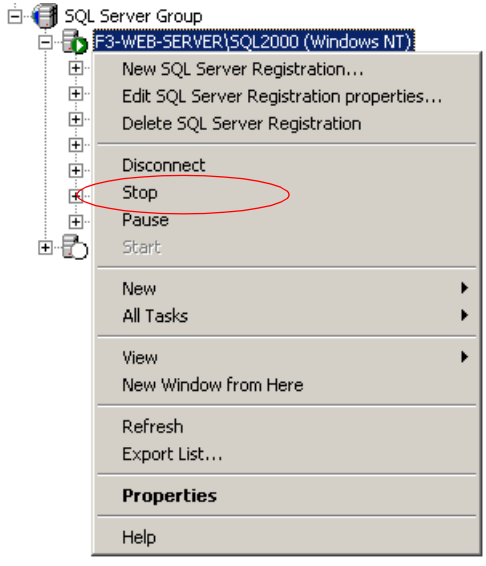


13. Click **OK** to confirm, exit the *Restore Database* dialog box and launch the restore operation.
    At the end of the restore operation, the restored database appears in the list of databases.

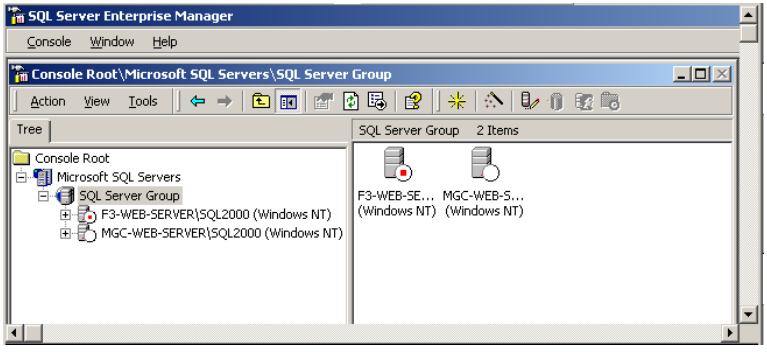
In some installations an error message, **Microsoft SQL-DMO (ODBC SQLSTATE: 42000)** may be displayed when clicking **OK**.

To stop the installation error message from appearing:

a. Stop the SQL Server (by right-clicking the SQL Server icon in the System Tray (bottom right corner), and then clicking **Stop** from the pop-up menu).

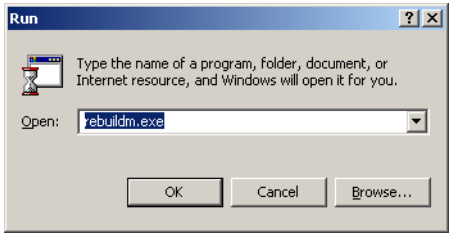


The Server disconnects, and an icon appears next to the server.

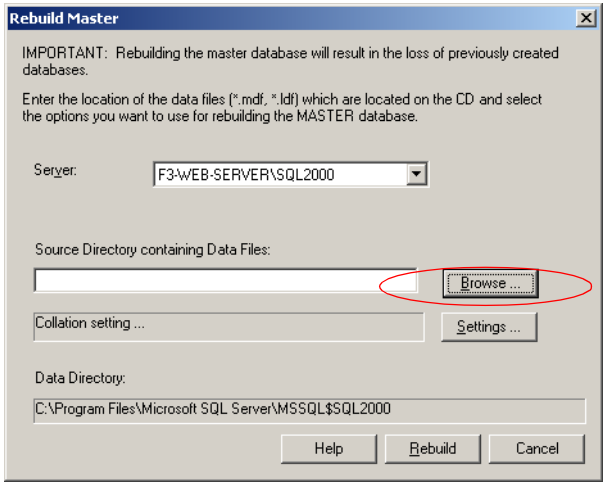


b. Using *Windows Explorer*, access the SQL directory on your system and copy the Data directory either to the same location (a Copy of Data directory is created), or to a different location.

c. From the *Start* menu, run the **Rebuild.exe** utility.

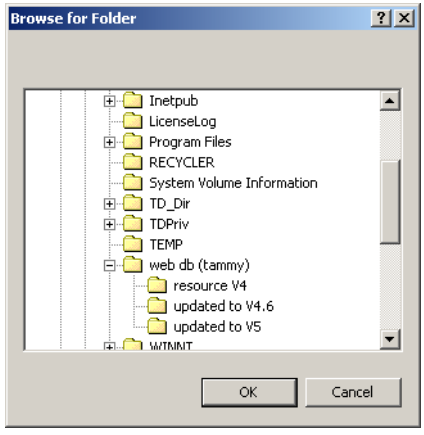


The *Rebuild Master* dialog box opens.

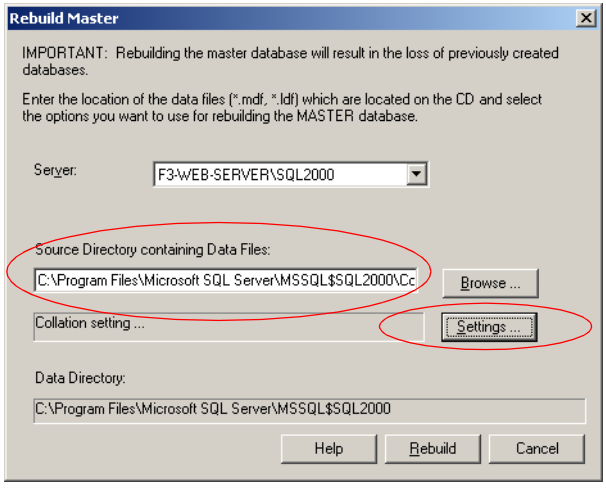

Rebuild Master
IMPORTANT: Rebuilding the master database will result in the loss of previously created databases.
Enter the location of the data files (*.mdf, *.ldf) which are located on the CD and select the options you want to use for rebuilding the MASTER database.
Server:
F3-WEB-SERVER\SQL2000
Source Directory containing Data Files:
Browse ...
Collation setting ...
Settings ...
Data Directory:
C:\Program Files\Microsoft SQL Server\MSSQL$SQL2000
Help
Rebuild
Cancel

d. Click the **Browse** button to select the Master Database that will be used to change the sort order.

The *Browse for Folder* dialog box opens.

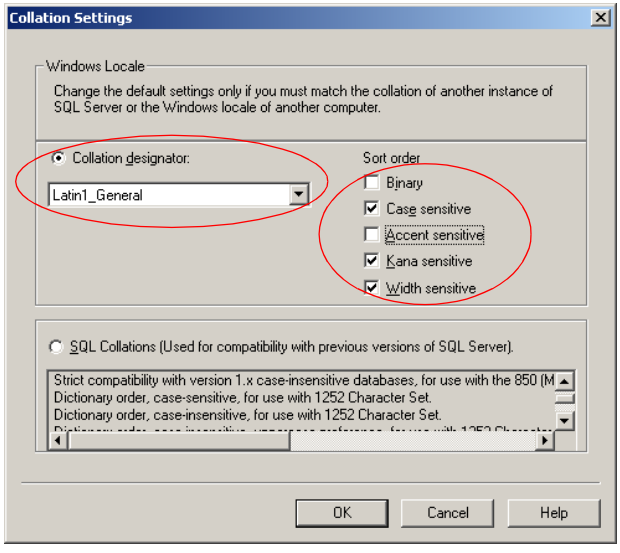


e. Select the *Copy of Data* folder according to its path (that you created in step b of this procedure), and then click **OK**. The name of the folder appears in the **Source Directory containing Data Files** box.


Rebuild Master
IMPORTANT: Rebuilding the master database will result in the loss of previously created databases.
Enter the location of the data files (*.mdf, *.ldf) which are located on the CD and select the options you want to use for rebuilding the MASTER database.
Server:
F3-WEB-SERVER\SQL2000
Source Directory containing Data Files:
C:\Program Files\Microsoft SQL Server\MSSQL$SQL2000\Cc
Browse ...
Collation setting ...
Settings ...
Data Directory:
C:\Program Files\Microsoft SQL Server\MSSQL$SQL2000
Help
Rebuild
Cancel

f. Click the **Settings** button to select the appropriate sort order.

The *Collation Settings* widow opens.

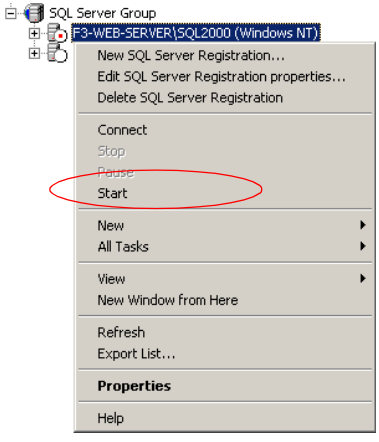

Collation Settings
Windows Locale
Change the default settings only if you must match the collation of another instance of SQL Server or the Windows locale of another computer.
Collation designator:
Latin1_General
Sort order
Binary
Case sensitive
Accent sensitive
Kana sensitive
Width sensitive
SQL Collations (Used for compatibility with previous versions of SQL Server).
Strict compatibility with version 1.x case-insensitive databases, for use with the 850 (M
Dictionary order, case-sensitive, for use with 1252 Character Set.
Dictionary order, case-insensitive, for use with 1252 Character Set.
OK
Cancel
Help

g. Select the following parameters:
Collation designator – **Latin1_General**
Check the following check boxes: **Case sensitive**, **Width sensitive** and **Kana sensitive**.

h. Click **OK**.

i. In the *Rebuild Master* dialog box, click **Rebuild**.
At the end of the process, the *Rebuild Master* dialog box closes.

Reconnect the SQL Server (by right-clicking the **SQL Server** icon in the System Tray (bottom right corner) and then clicking **Start** from the pop-up menu).



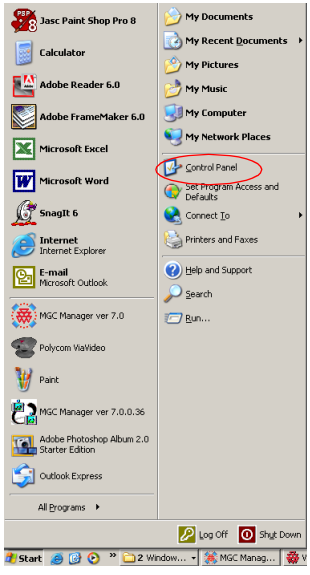
j. Repeat steps 1 to 12 in the SQL Server Configuration procedure. Make sure that the appropriate path is selected in the *Restore database – General* dialog box.

Registering the SQL Database in ODBC Data Sources

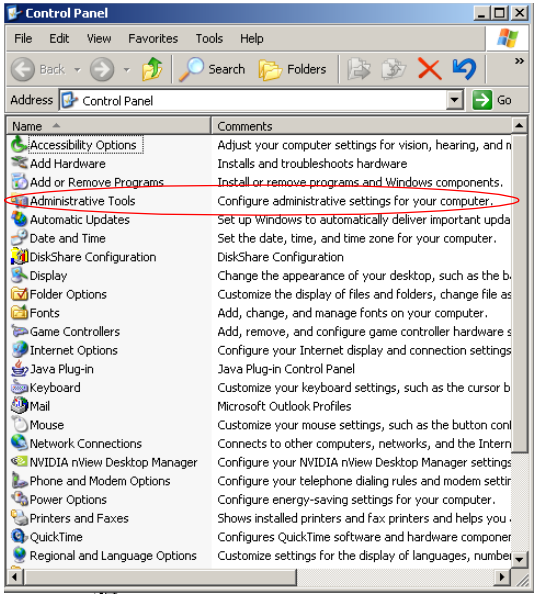
The SQL database provided with the MGC Manager Server must be registered in the ODBC Data Source to enable its use by both the SQL and MGC WebCommander applications.

To register the SQL Database in ODBC:

1. On the *Start* menu, click **Control Panel**.

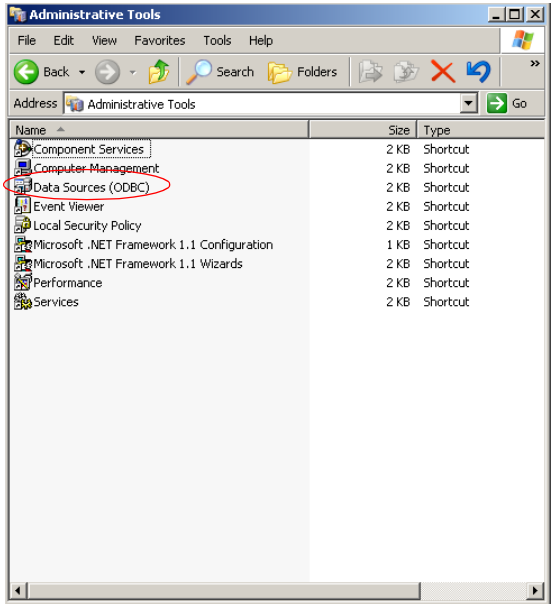


The *Control Panel* window opens.


Control Panel
File Edit View Favorites Tools Help
Back
Search
Folders
Address
Control Panel
Go
Name
Comments
Accessibility Options
Adjust your computer settings for vision, hearing, and
Add Hardware
Installs and troubleshoots hardware
Add or Remove Programs
Install or remove programs and Windows components.
Administrative Tools
Configure administrative settings for your computer.
Automatic Updates
Set up Windows to automatically deliver important upda
Date and Time
Set the date, time, and time zone for your computer.
DiskShare Configuration
DiskShare Configuration
Display
Change the appearance of your desktop, such as the b
Folder Options
Customize the display of files and folders, change file as
Fonts
Add, change, and manage fonts on your computer.
Game Controllers
Add, remove, and configure game controller hardware
Internet Options
Configure your Internet display and connection settings
Java Plug-in
Java Plug-in Control Panel
Keyboard
Customize your keyboard settings, such as the cursor b
Mail
Microsoft Outlook Profiles
Mouse
Customize your mouse settings, such as the button con
Network Connections
Connects to other computers, networks, and the Intern
NVIDIA nView Desktop Manager
Configure your NVIDIA nView Desktop Manager settings
Phone and Modem Options
Configure your telephone dialing rules and modem settir
Power Options
Configure energy-saving settings for your computer.
Printers and Faxes
Shows installed printers and fax printers and helps you
QuickTime
Configures QuickTime software and hardware componer
Regional and Language Options
Customize settings for the display of languages, numbe

2. In the *Control Panel* window, double-click the **Administrative Tools** option.

   The *Administrative Tools* window opens.


Administrative Tools
File Edit View Favorites Tools Help
Back Search Folders
Address Administrative Tools
Go
Name Size Type
Component Services 2 KB Shortcut
Computer Management 2 KB Shortcut
Data Sources (ODBC) 2 KB Shortcut
Event Viewer 2 KB Shortcut
Local Security Policy 2 KB Shortcut
Microsoft .NET Framework 1.1 Configuration 1 KB Shortcut
Microsoft .NET Framework 1.1 Wizards 2 KB Shortcut
Performance 2 KB Shortcut
Services 2 KB Shortcut

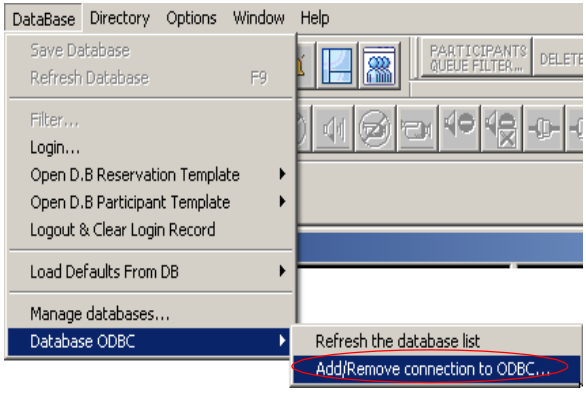
3. Double-click the **Data Sources (ODBC)** option.

   The *ODBC Data Source Administrator* dialog box opens.

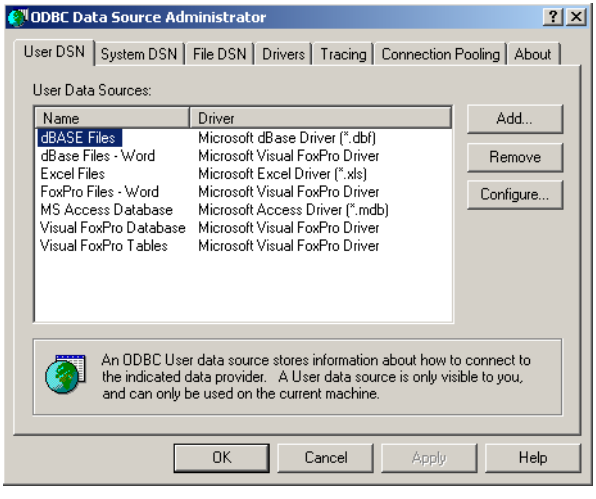
   See step 2 in the next procedure for the continuation of the registration procedure.

To register the database from the MGC Manager application:

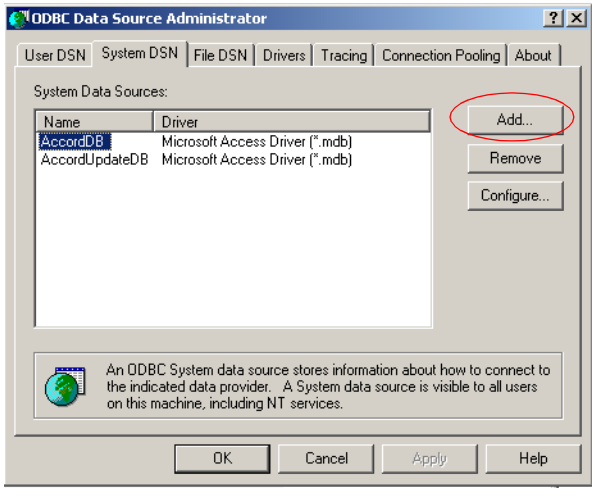
1. Open the MGC Manager application.
2. On the *Database* menu, click **Database ODBC,** and then click **Add/ Remove connection to the ODBC**.



The *ODBC Data Source Administrator* dialog box opens.

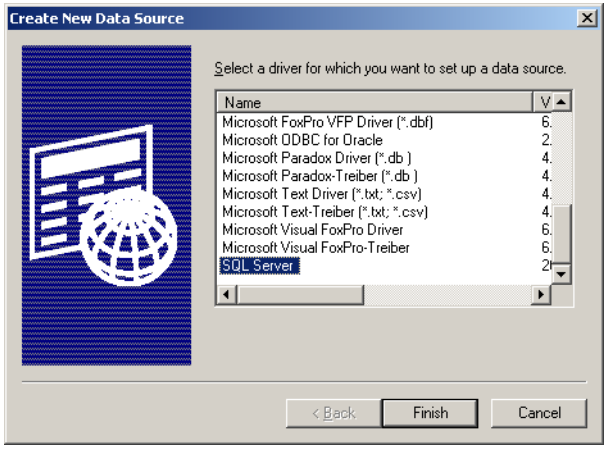


3. Click the **System DSN** tab.

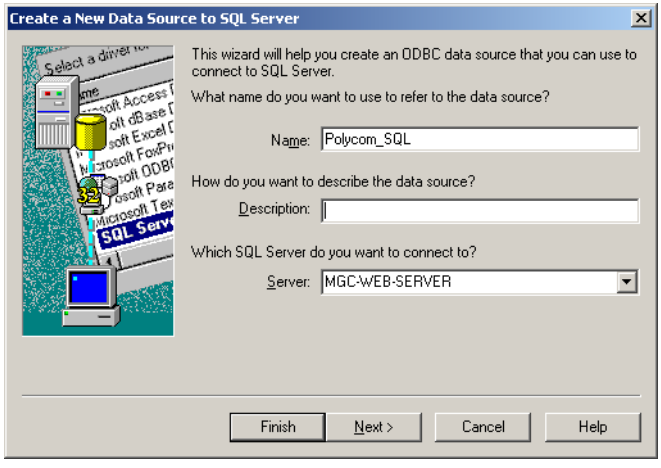


4. Click the **Add** button.

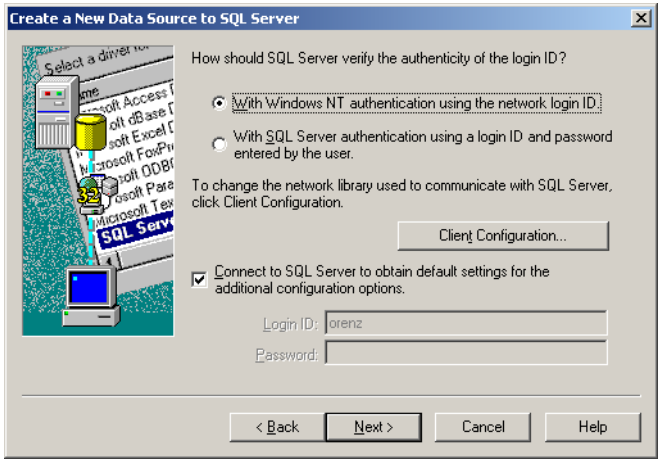
   The *Create New Data Source* dialog box opens.



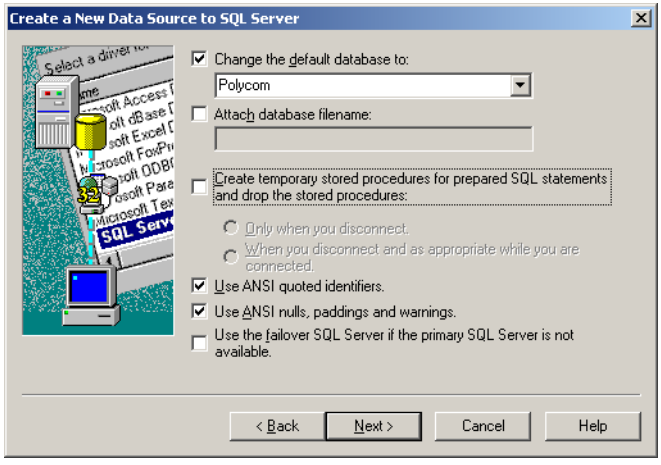
5. In the database type list Select **SQL Server**, and then click **Finish**. The *Create a New Data Source to SQL Server* window opens.


Create a New Data Source to SQL Server
This wizard will help you create an ODBC data source that you can use to connect to SQL Server.
What name do you want to use to refer to the data source?
Name: Polycom_SQL
How do you want to describe the data source?
Description:
Which SQL Server do you want to connect to?
Server: MGC-WEB-SERVER
Finish
Next >
Cancel
Help

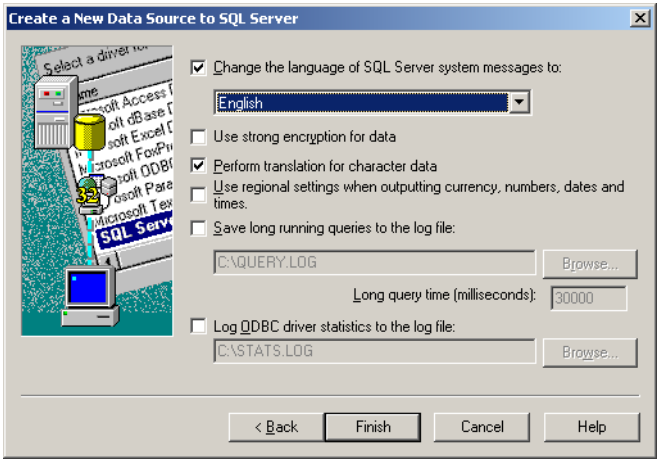
6. In the *Name* box, enter a name that will identify the database file in the MGC Web Server Manager application.
7. In the *SQL Server* drop-down list, select **Local** if the SQL Server is installed in the same computer as the MGC Web Manager application. Otherwise, select the server name from the drop-down list.
8. Click **Next** to continue.


Create a New Data Source to SQL Server
How should SQL Server verify the authenticity of the login ID?
With Windows NT authentication using the network login ID.
With SQL Server authentication using a login ID and password entered by the user.
To change the network library used to communicate with SQL Server, click Client Configuration.
Client Configuration...
Connect to SQL Server to obtain default settings for the additional configuration options.
Login ID: orenz
Password:
< Back
Next >
Cancel
Help

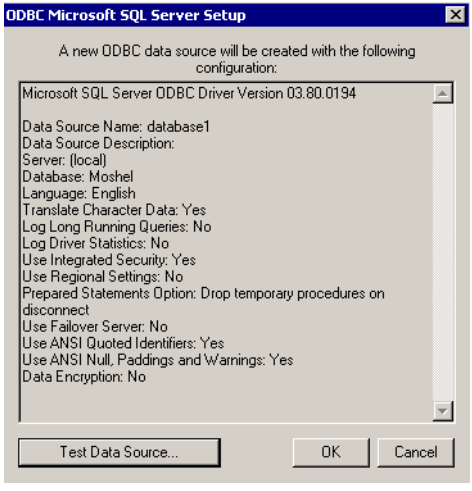
9. Keep the default settings as shown in the figure above, and then click **Next** to continue.
10. Click the *Change the default database to* check box and select the database that was restored in the SQL Server.


Create a New Data Source to SQL Server
Change the default database to:
Polycom
Attach database filename:
Create temporary stored procedures for prepared SQL statements and drop the stored procedures:
Only when you disconnect.
When you disconnect and as appropriate while you are connected.
Use ANSI quoted identifiers.
Use ANSI nulls, paddings and warnings.
Use the failover SQL Server if the primary SQL Server is not available.
< Back
Next >
Cancel
Help

11. Click **Next** to continue.
12. To change the User Interface language used in the database, click the *Change the Language of SQL Server System Message to* check box and select the desired language from the drop-down list.



13. Click **Finish**.
    A message window appears on the screen.


ODBC Microsoft SQL Server Setup
A new ODBC data source will be created with the following configuration:
Microsoft SQL Server ODBC Driver Version 03.80.0194
Data Source Name: database1
Data Source Description:
Server: (local)
Database: Moshel
Language: English
Translate Character Data: Yes
Log Long Running Queries: No
Log Driver Statistics: No
Use Integrated Security: Yes
Use Regional Settings: No
Prepared Statements Option: Drop temporary procedures on disconnect
Use Failover Server: No
Use ANSI Quoted Identifiers: Yes
Use ANSI Null, Paddings and Warnings: Yes
Data Encryption: No
Test Data Source...
OK
Cancel

14. Click the **Test Data Source** button to make sure that the appropriate database was selected.
    The message *Test completed successfully* appears.

15. Click **OK** to confirm.
    The selected database is added to the System DSN list.
16. Click **OK** to exit the ODBC.

17. When registering the database in the ODBC from within the MGC Manager application, a confirmation message appears.

    Select **Yes** to refresh the list of the databases available to the operator. Select **No** to refresh the database list manually. In that case, the database will not be available to the user until the list is refreshed manually.

    If you have selected **Yes**, the system attempts to open all the databases registered in the ODBC. If these Databases are protected by a Name and Password, a *Login* dialog box is displayed.

    Since the MGC database is not password protected, select **Cancel** in all the Login dialog boxes which are displayed by the system.

18. If you are registering the database from the ODBC Control Panel, you have to refresh the database list manually in the MGC Manager application, by selecting **Refresh the Database List** from the *Database ODBC* under the *Database* menu.

    The system attempts to open all the databases registered in the ODBC. If these Databases are protected by a Name and Password, a *Login* dialog box is displayed.

    Select **Cancel** in all the *Login* dialog boxes that are displayed by the system.

Database Manager

The MGC Database Manager is the application that enables the user to access the Administrative tables and modify their entries, define new permissions, add new Groups, define users and define the user access rights to the various groups. In addition, the MGC Manager operators access the User tables via the Database Manager.

When both the MGC WebCommander (to manage scheduling and monitoring of conferences via the Web), and the MGC Manager applications use the same database, the Administrative tables defined in the MGC Web Server Manager apply to both the MGC Web Server Manager and the MGC Database Manager. Therefore, the various tables may include parameters that apply only to the WebCommander and others that apply only to the MGC Manager.

Users may access the database via the MGC Web Server Manager or the MGC Database Manager and perform changes in the Administrative tables. These changes will apply to both applications. The access to the Database Manager is password protected.

The remainder of this chapter describes the basics of using the database Administrative tables.

Logging into the Database Manager

Access to the Database Manager is password protected. Depending on the Permission Type assigned to the user, different options are enabled.

By default, the following login names and passwords are defined in the MGC Database Manager application:

Table 6-1: Database Passwords

User Name	Password	Permission Type
POLYCOM	POLYCOM	Administrator
ACCORD	ACCORD	Administrator
admin1	123	Administrator
oper1	123	Operator

Table 6-1: Database Passwords

User Name	Password	Permission Type
user1	123	Moderator
user2	123	Moderator (Monitoring only)
Part1	123	Participant

These users differ in the functions they are allowed to perform and the information they can access.

By default, five Permission types, that define the access rights for each user, are defined in the system: Administrator, Operator, Moderator, Moderator (Monitoring only) and Participant.

The permission types are defined in the Permissions table in the MGC Database Manager application.

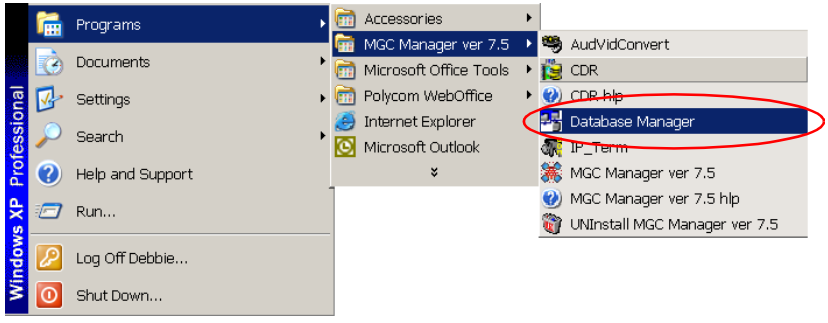
All users can access the database and define their personal reservations, participants and general application defaults. All database users can create a different set of defaults to use locally or over the network. However, only participants with the highest permission rights (Administrator) can manage the default sets for all the users on the network.

In addition, users with the highest permission rights (Administrator) can perform the following operations:

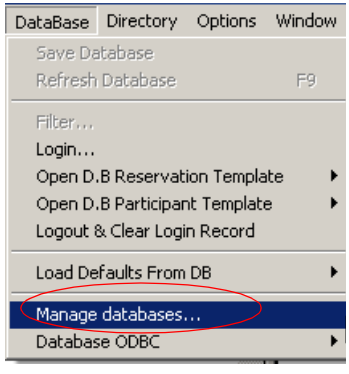
- Define new database users and their access rights.
- Define labels to be assigned to conferences and participants. These labels can be used to filter the database for the desired information.

To Log in to the Database Manager:

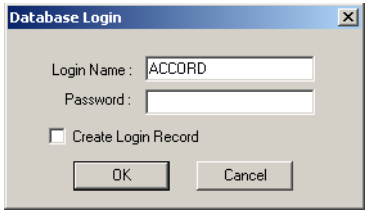
1. On the *Start – Programs* menu, click **MGC Manager Ver 7.5**, and then click **Database Manager**.



Alternatively, in the MGC Manager, on the *Database* menu, click **Manage Databases.**



The *Database Login* dialog box opens.

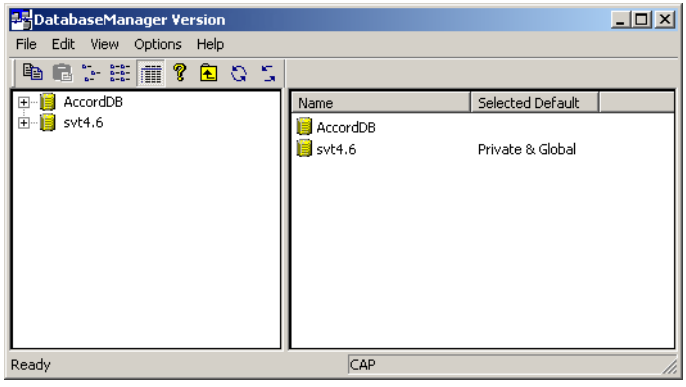


2. The *Login Name* field is filled with the last name entered (so you do not have to retype it each time you log in). The first time you log in (or

whenever the registry is empty), the login you used to enter Windows will be automatically referenced when accessing the database.

If required, type your *Login Name*.

3. Enter your password in the *Password* field, and then click **OK**.
The *Database Manager* window opens, displaying the database icon.



Upgrading from a Previous Version

When upgrading from a previous version of the Database Manager, the old database is saved during the installation procedure. If there are discrepancies in the number of fields between the old and the new database, the system queries whether to update the database to the new format.

The system automatically saves the network cards' circuit ID assignments during the upgrade process and restores Reservations after the software upgrade. However it is recommended that you document the order of the network cards and their circuit ID assignments as well as back up the reservations using the Reservation Backup utility prior to the MCU upgrade. For more details regarding this utility, see the MGC Administrator's Guide, Chapter 5, "Reservations Backup and Restore", prior to the upgrade.

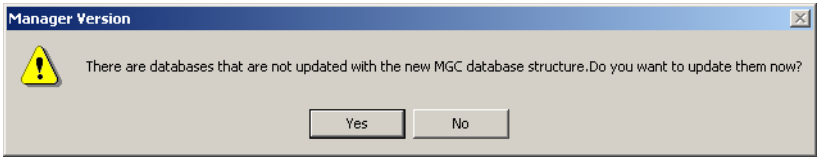
To upgrade the Database Manager from a previous version:

MGC Manager Version 7.5 can be used only when a hardware key (dongle) is installed on the MCU. Before installing this software version and downloading the MCU software version, you must install the dongle on the MCU. For more information, please contact Polycom support.

1. Follow the directions for upgrading the Database Manager in the MGC Administrator's Guide, Chapter 2, "MGC Unit Software Installation".

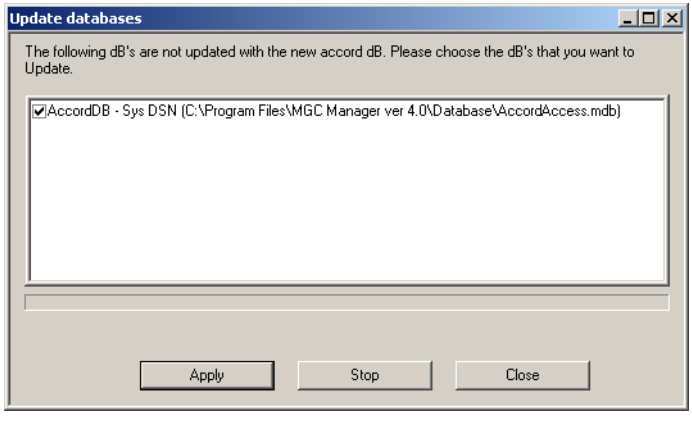
2. Log in to the Database Manager as described in the previous procedure.

   If this is the first time you are logging in to the application since it was upgraded, a popup window is displayed:


Manager Version
There are databases that are not updated with the new MGC database structure.Do you want to update them now?
Yes
No

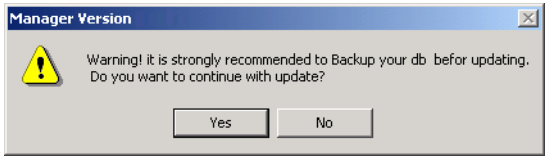
3. Select **Yes** to automatically update the database (recommended), or **No** to leave the database unchanged. If you select **No**, new entries to the database will not be saved when using the new Database Manager application version.

   If you selected **Yes**, the *UpdateDB* dialog box is displayed informing you which databases require updating.


Update databases
The following dB's are not updated with the new accord dB. Please choose the dB's that you want to Update.
AccordDB - Sys DSN (C:\Program Files\MGC Manager ver 4.0\Database\AccordAccess.mdb)
Apply
Stop
Close

   If the list contains more than one database, you can clear the check marks of databases you do not want to update.

4. Click the **Apply** button to update the selected databases.
   A warning message, recommending backup of the database before upgrading, appears.


Manager Version
Warning! it is strongly recommended to Backup your db befor updating.
Do you want to continue with update?
Yes
No

5. Click **Yes** to continue the update process or **No** to cancel the operation (so you can back up the database first).

   The updating time will depend on the size of the database.

   At the end of the process, the *Update Database Results* dialog box listing the fields that were updated is displayed.

6. Click **OK** to return to the *Update Database* dialog box.

7. Click **Close** to close the *Update Database* dialog box and exit the update process.

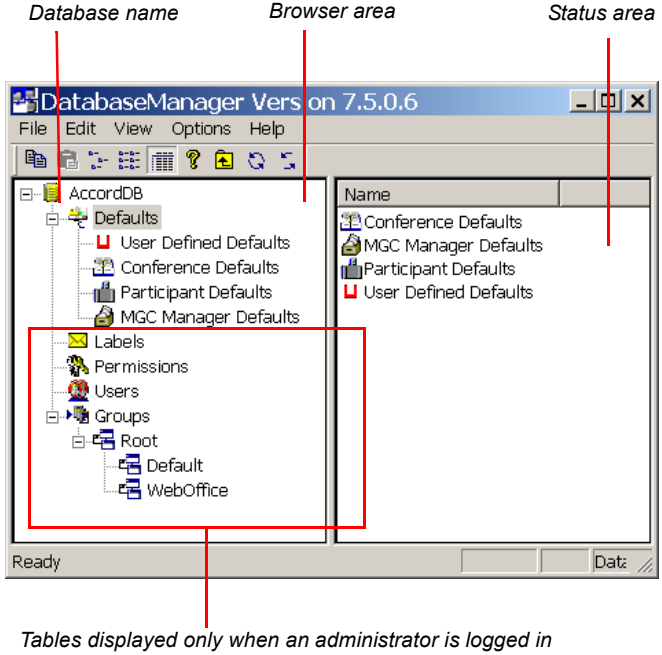
When you open the MGC Manager for the first time after an upgrade, if you have not yet updated the database, you can do it at a later time, using the *Add/ Remove Connection to the ODBC* from the *Database* menu.

Displaying the Database Tables

Once you are logged into the system, you can display the various database tables. Users defined as Operator, Moderator or User can only view and modify private sets of defaults (User Defined, Conference, Participant and MGC Manager). Users defined as Administrators can view and modify private as well as global default sets (sets that apply and can be used by all users). In addition, the administrator can add/modify entries to all the administrative tables.

To display the database tables:

Click the plus [+] icon next to the icon of the database whose tables you wish to display. The database tree is displayed.



The tree categories, that represent the database tables, change according to the Permission assigned to the user who logged into the database.

Users with any permissions other than Administrator can only view and modify the Default tables they own. Users with the Administrator permission can view and modify all the database tables.

The following modes are available in the database tree:

Defaults – enables users to define conference, participant and general system default parameters. Users with permissions to modify the database (Database Configuration option is checked in the Permissions dialog box) can define default settings to be used by all the MGC Database Manager users. Users without the permissions to modify the database tables can define private default sets, for their exclusive use.

Labels – used to define labels. The labels may be assigned to conferences and participants, mainly for sorting purposes. Only users with the permission to configure the database may manage the Labels table.

Permissions – used to define the access rights to various modules of the MGC WebCommander and the MGC Database Manager applications and perform various tasks. Only users with the permission to configure the database may define or modify Permissions.

Users – enables the definition of the MGC WebCommander and the MGC Web Database Manager users. Users are assigned the appropriate permissions, that define their access rights to the system functions. In addition it enables you to assign access rights to the various groups defined in the Groups table. Only users with the permission to configure the database can manage the Users table.

Groups – enables the definition of groups to which users are assigned. The Conference templates and Participant templates are also assigned to a group and can be viewed, modified, deleted or used to start a conference only by users who have access rights to that group. The Groups enhance the system security, giving users access only to data that they are allowed to view.

The Database Manager Toolbar

The following buttons appear in the Database Manager toolbar.

Icon	Description
Copy	Copies the selected record from a Database Manager table to the clipboard.
Paste	Pastes an entry from the clipboard to the selected table.

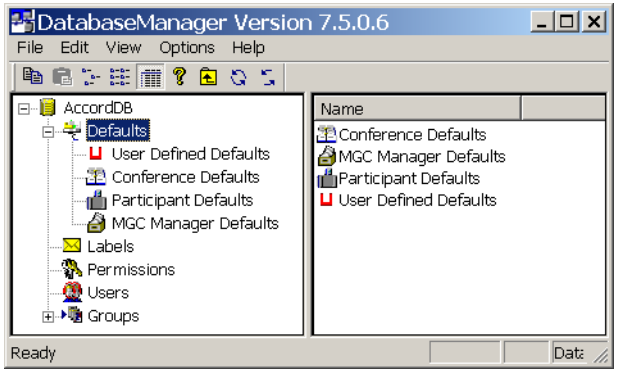
Icon	Description
Small Icons	Lists each of the table entries using a small icon and the entry name. The list is displayed horizontally.
List	Lists each of the table entries using a small icon and the entry name. The list is displayed vertically.
Details	Displays the details of each of the table entries. The details are displayed in a table format allowing you to sort the list according to a selected column.
About	Displays the *About* window indicating the version number of the Web Server Manager application.
Up one level	Use to move one level up in the database tree.
Refresh Database List	Updates the databases list used by the system when a database is added to the ODBC list via the Control Panel instead of from within the Web Server Manager application.
Refresh Database	Displays changes made to the database by other users, or via the MGC Database Manager, particularly when modifying the Groups table.

Defaults

The MGC Manager enables users to customize their system according to their needs, by defining default values for users, conferences, participants, and general system parameters. These defaults can be determined for the WebCommander and MGC Manager users. The default sets are stored in a centralized or local database. The default sets may be defined in the WebCommander Server Manager or the MGC Database Manager application.

When a user defines a new conference (Reservation, On Going or Template), or a new participant, the fields display the default values taken from the active Defaults set, minimizing the need to define all the parameters and allowing the user to modify specific fields as needed.

The default sets are defined in the Database Manager module of the MGC Manager (or in the WebCommander Server Manager application).



There are four categories for which default sets may be defined:

User Defined Defaults – a list of user-defined field parameters for conferences and participants.

Conference Defaults – a list of all the conference parameters.

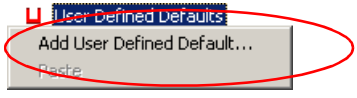
Participant Defaults – a list of all the participant parameters.

MGC Manager Defaults – general system parameters that apply only to the MGC Manager. These parameters determine the system behavior in specific events, such as saving and linking participants to a conference and updating the start time of a conference.

Defining User Defined Defaults

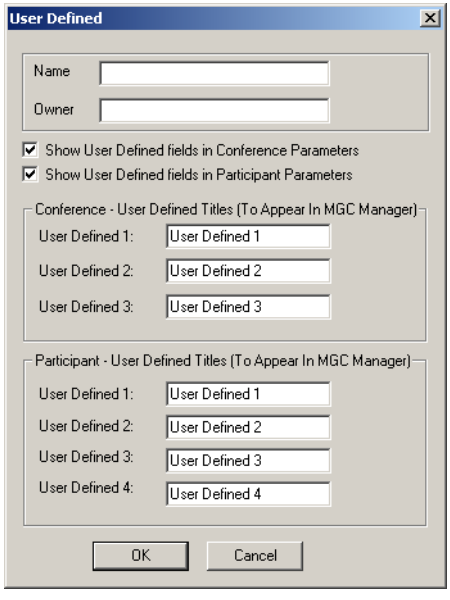
To define a user defined default:

1. Log in to the Database Manager.
2. Click on the plus **[+]** icon next to the *Defaults* icon to display the defaults categories.
3. Expand the Defaults tree.
4. Right-click the *User Defined Defaults* icon.
   A pop-up menu appears.



5. Click **Add User Defined Default.**

   The *User Defined* dialog box opens.



6. Define the following parameters:

Table 6-2: User Defined parameters description

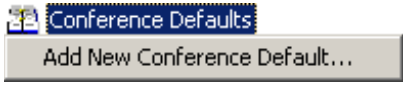
Field	Description
Name	Enter the name of the User Defined default set.
Owner	Enter the name of the owner of this set. Only the owner and the administrator with the appropriate permission will be able to modify this set. Leave this field blank to assign this set to the current logged in user.
Show User Defined fields in Conference Parameters	Select this check box to display the User Defined fields in the *Conference Properties - General* dialog box. If you clear this check box, all three User Defined fields will be hidden.
Show User Defined fields in Participant Parameters	Select this check box to display the User Defined fields in the *Participant Properties - Identification* dialog box. If you clear this check box, all four User Defined fields will be hidden.
Conference - User Defined Titles	User Defined 1, 2 and 3 - Enter the text to be displayed as the title of the User Defined fields in the *Conference Properties - General* dialog box, using up to 25 characters. These titles replace the default titles (User Defined 1, etc.) If left blank, the default titles are displayed. **Note:** The titles of the User Defined fields appear only in the MGC Manager application. In the WebCommander application, only the default titles are shown.
Participant - User Defined Titles	User Defined 1, 2, 3 and 4 - Enter the text to be displayed as the title of the User Defined fields in the *Participant Properties - Identification* dialog box, using up to 25 characters. These titles replace the default titles (User Defined 1, etc.) If left blank, the default titles are displayed. **Note:** The titles of the User Defined fields appear only in the MGC Manager application. In the WebCommander application, only the default titles are shown.

7. Click **OK** to confirm and store the new User Defined Defaults set.

Defining Conference Defaults

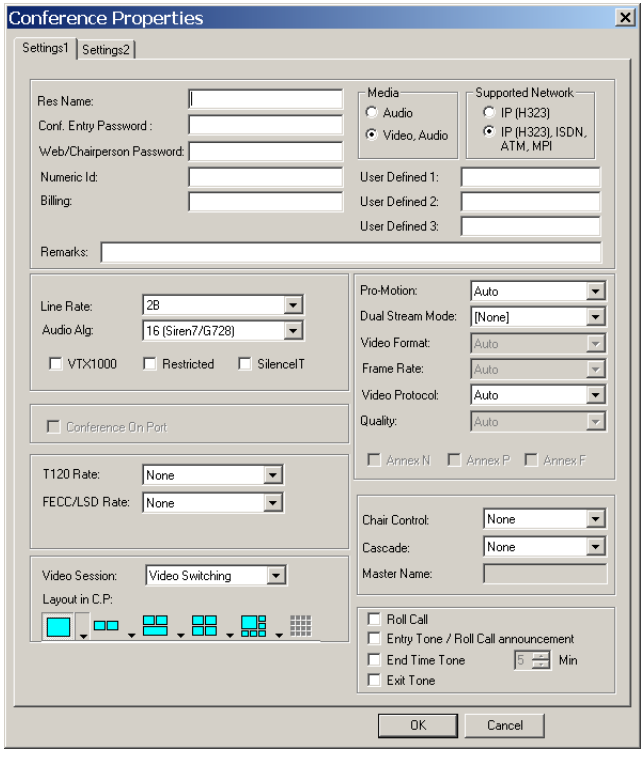
To define a conference default:

1. Expand the Database Manager window.
2. Expand the Defaults tree.
3. Right-click the *Conference Defaults* icon.
   A pop-up menu appears.



4. Click **Add New Conference Defaults.**

   The *Conference Properties – Settings1* dialog box opens.

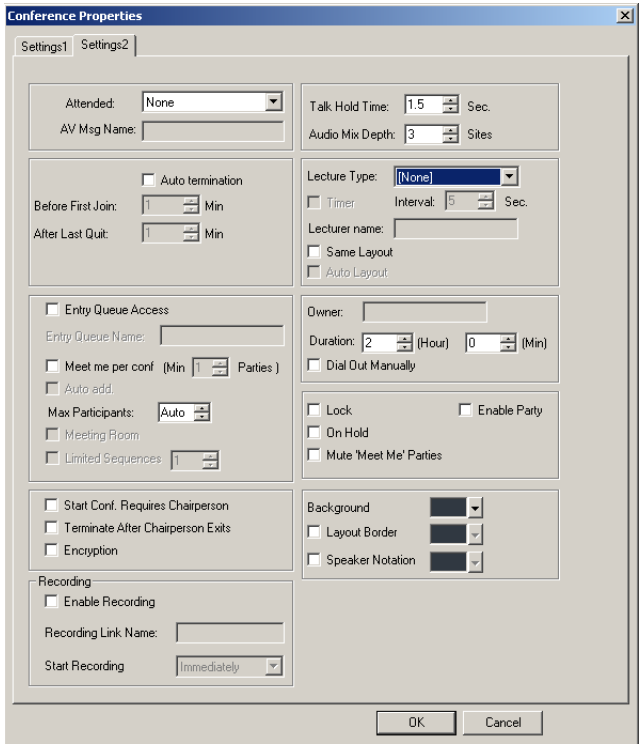


5. In the *Res Name* field, enter the name of the Reservation Defaults set that you are creating.
6. Define the *Settings1* parameters.

   The *Settings1 Video* parameters are defined in the same manner as in the *Conference Properties* dialog box described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining a New Video Conference".

   If the Audio Only option is selected, only the fields pertaining to Audio are shown. *Audio Only* conference fields are described in the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining a New On Going Audio Only Conference".
7. Click the **Settings2** tab.

   The *Conference Properties – Settings2* dialog box opens.



8. Define the *Settings2* parameters.

   These additional fields are defined in the same manner as in the *Conference Properties* dialog box described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining a New Video Conference".

   Audio Only conference fields are described in the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining a New On Going Audio Only Conference".

9. In the *Owner* field, users with administrator's permission may assign the conference to any user by entering the user's name.
   Reservations stored in the database may be filtered using the Owner name.

10. Click **OK** to confirm and store the new Conference Defaults set.

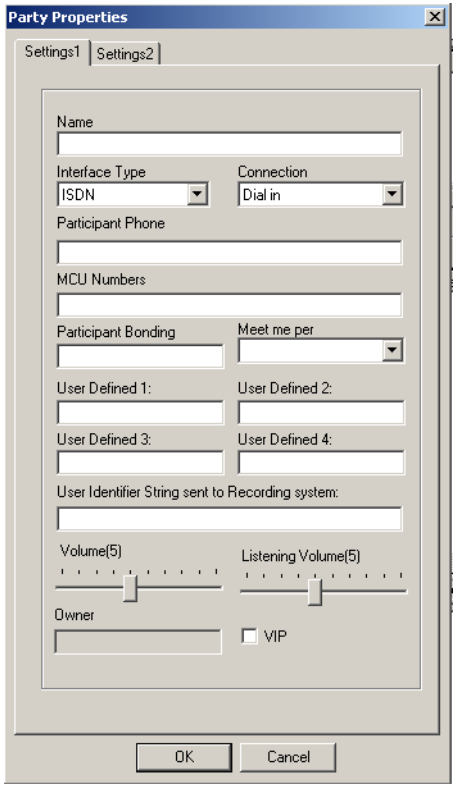
Defining Participant Defaults

To define participant defaults:

1. Right click the *Participant Defaults* icon.
   A pop-up menu appears.

2. Click **Add New Participant Defaults**.

   The *Party Properties - Settings1* dialog box opens.



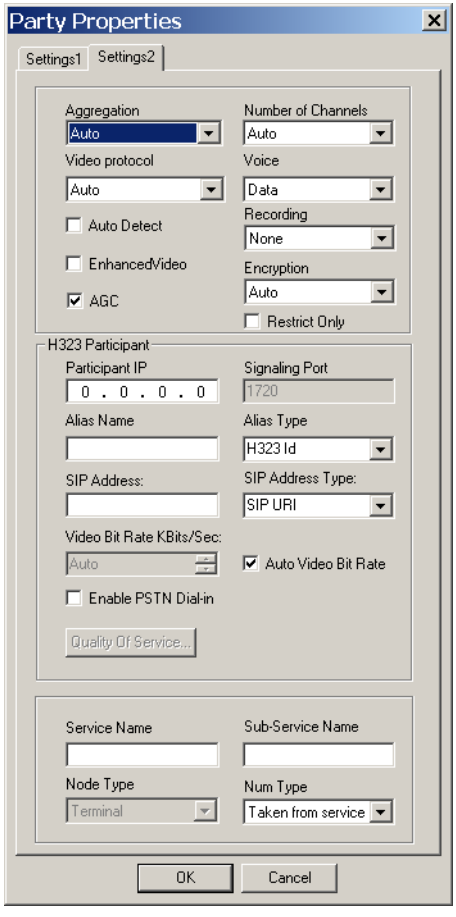
3. In the *Name* field enter the name of the Participant Defaults set.
4. Define the *Settings1* parameters.

   The *Settings1* parameters are defined in the same manner as in the *Participant Properties* dialog box described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

   The *Owner* field displays the name of the user to whom the default set is assigned. This field is disabled for users without permission to modify (write) database tables. User with Administrator rights (who can read and write database tables) can assign the defaults set to any registered user. The Owner name can be used for filtering.

5. Click the **Settings 2** tab.

   The *Party Properties - Settings2* dialog box opens.



6. Define the *Settings2* parameters.

   The *Settings2* parameters are defined in the same manner as in the *Participant Properties* dialog box described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

7. Click **OK** to confirm the new set.

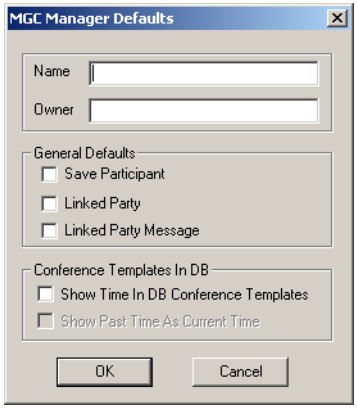
Defining MGC Manager General Defaults

To define MGC Manager defaults:

1. Right-click the *MGC Manager Default* icon.
   A pop-up menu appears.

2. Click **Add MGC Manager Defaults**.

   The *MGC Manager Defaults* dialog box opens.



3. In the *Name* field, enter the name of the defaults set.
4. The *Owner* field displays the name of the user to whom the MGC Manager Default set is assigned. This field is disabled for users with no permission to modify (write) database tables. Users with Administrator permission (can read and write all database tables) can assign the defaults set to any registered user.

5. Define the following parameters:

Table 6-3: MGC Manager Default options

Field	Description
General Defaults	***Save Participant*** – When enabled, the *Save Participant* check box appears in the *Participant Properties* dialog box, enabling the user to save the participant properties to the Participant template database. ***Linked Party –*** When enabled, the *Linked Participant* check box appears in the *Participant Properties* dialog box enabling the user to save the participant properties to the database. When disabled, participants defined during conference definition are embedded participants only. For more details regarding linked and embedded participants, see Chapter 7, "Adding Participants to a Reservation Template" on page 7-33. ***Linked Party Message*** – When enabled, the system displays a warning message when closing the *Properties* dialog box of a linked participant without saving the parameters to the database.
Conference Templates in DB	***Show Time in DB Conference Templates*** – When enabled, the system displays the *Schedule* tab in the *Properties* dialog box of a Reservation template defined in the database. This enables the user to add the time that the conference should start. This option can later be used to filter conferences that start on a specific day. Note that the date and time are **not** used to automatically start the conference from the database template on the scheduled date. ***Show Past Time As Current Time –*** When enabled, the system automatically updates the start date and time of an existing conference template to the current date (even if the original start date and time are in the past). Note that when filtering conferences according to the start date and time, the conference retains the past date and time unless it is updated.

6. Click **OK** to confirm the new set.

Managing the Defaults Sets

The MGC Manager application is installed with an embedded Defaults set. If no Defaults set is defined as the Global Defaults set, the embedded Defaults set is active.

A Defaults set may be set as a Private or a Global Defaults set. A Global Defaults set is a default set that applies to all the database users. A Private Defaults set applies only to users to whom it is specifically allocated as the private Defaults set, and will be used instead of the Global Defaults set.

Only one Defaults set may be defined as the Private Defaults set. Selecting another Defaults set as the Private Defaults Set automatically cancels the current Private Set. One set may be defined as both a Global and a Private Defaults set.

The selection of the Global and Private Defaults set is done separately for each *Defaults* category.

If more than one database is installed, the system loads the Private defaults from the database designated as Private and the Global Defaults from the database designated as Global. Therefore you must define the database from which you want to load the Private Defaults set as Private and the database from which you want to load the Global default set as Global. You may define the same database as both Global and Private. In that case, the Global Defaults set and the Private Defaults set will be taken from the same database.

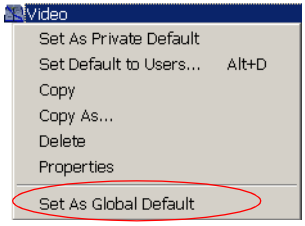
Using the right click pop-up menu you can also delete a new Defaults set or change the Defaults set parameters.

To define a Defaults set as the Global Defaults set:

Only the administrator can define a Defaults set as the Global Defaults set.

1. In the Database Manager *Status* area, right-click the Defaults set icon.

   A pop-up menu appears.

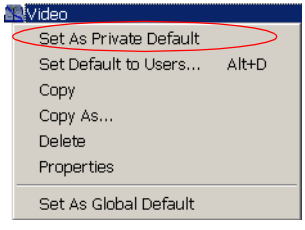


2. Click **Set As Global Default**.

   The appropriate indiction appears in the *Status* area and a check mark appears next to the **Set as Global Default** option.

To define a Defaults set as the Private Defaults set:

1. In the Database Manager *Status* area, right-click the Defaults set icon. A pop-up menu appears.



2. Click **Set As Private Default**.

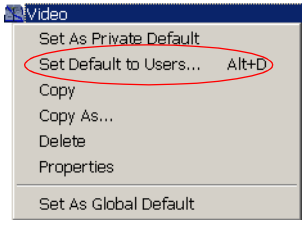
   The Defaults set is assigned as the Private Defaults set of the user who is currently logged in. The appropriate indiction appears in the *Status* area and a check mark appears next to the **Set as Private Default** option.

To Assign a defaults set to other users

Only the administrator can assign a Defaults set to other users.

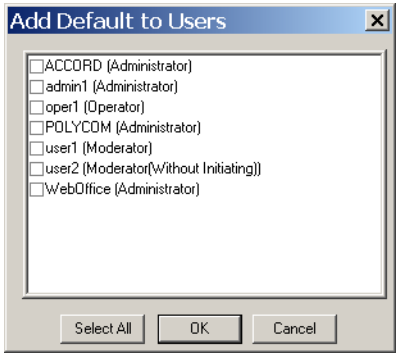
1. In the *Status* area, right-click the Defaults set icon.

   A pop-up menu appears.



2. Click **Set Defaults to Users**.

   The *Add Default to Users* dialog box opens, listing all users currently defined in the database.



3. Select the check boxes of all users to which you want to assign the Defaults set.
   To select all users, click the **Select All** button.
4. Click **OK**.

To designate a database as the Private or Global default database:

Only the administrator can assign a database as the Private or Global default database.

1. In the *Browser* area, right-click the icon of the database to be designated as the Private or Global default database.

   A pop-up menu appears.

2. Click **Set As Private Default** to designate this database as the source for the Private Default set, or click **Set As Global Default** to designate this database as the source for the Global Default set.
   A check mark next to the selected option indicates which option is active.

   To define the database as both the Private and Global default database, select both options, repeating steps 1 and 2.

Defining Permissions

Permissions define the access rights to various functions of the MGC WebCommander, MGC Web Server Manager and MGC Database Manager. You can define various permission types according to your needs, creating a wide range of user types. Once defined, the permission is assigned to a user, setting the user's access rights to various functions.

Permissions defined in the MGC Database Manager only include *Permission Name*, *Database Configuration*, *Modify Defaults in Manager*, and *Add /Modify Public Filters* options. The rest of the system parameters are disabled and can only be used for reference purposes. These Permissions are defined in the MGC WebServer Manager, and cannot be modified in the MGC Database Manager.

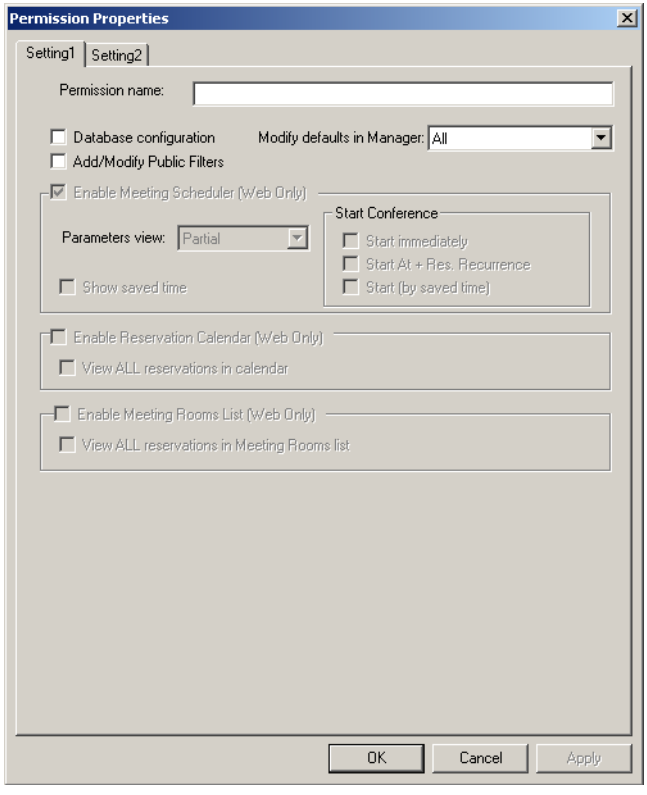
By default there are five permission sets defined in the system. Most of the access rights defined in the Permissions apply to the conferences run and controlled via the Web. Only the Database control section applies to the MGC Manager application.

To define and modify Permissions, refer to the MGC Web Server Manager User's Guide, Chapter 5, "Defining Permissions".

To define a set of permissions:

1. In the *Browser* area, right-click the *Permissions* icon and then click **Add New Permission to DB**.

2. The *Permission Properties-Settings1* dialog box opens.



3. Define the following options:

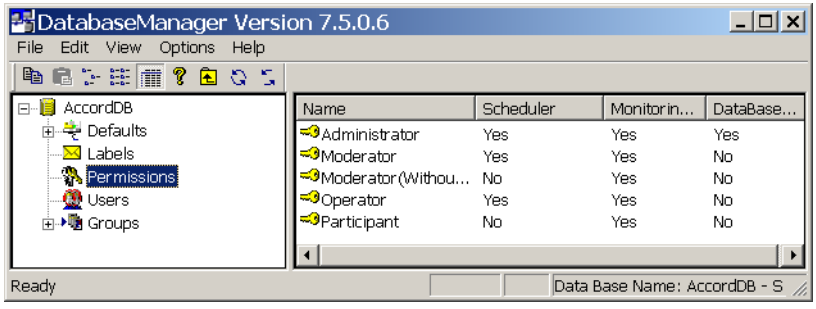
Table 6-4: Permission Properties - Settings1 parameters

Option	Description
Permission Name	Enter the name for this set of options determining the access rights to various functions. This set will be assigned to users and will determine their access rights.
Database Configuration	Determines whether the user will be able to configure the administrator's tables (Defaults, MCUs, Labels, Permissions, Users and Groups) in the database via the Web Server Manager or the MGC Database Manager (in the MGC Manager application), when both applications use the same database. This option should be enabled for a Permission that will be assigned to an Administrator.
Add /Modify Public Filters	Determines whether the user will be able to create and modify public filters.
Modify Defaults in Manager	Determines whether the user will be able to read the various default sets from the database, add new defaults to the database or modify the existing default sets in the database from the MGC Database Manager or the MGC Web Server Manager applications. ***Owned*** – Users can view and/or modify the default sets assigned to them while saving the default sets to the database. ***All*** - Users can view and/or modify all the default sets in the database while saving the default sets.

4. Click **OK** to confirm and add the new Permission to the database.

Viewing the Permissions List

1. In the *Browser* area, click the *Permissions* icon.
   The *Permissions* list is displayed in the *Status* area, in a table format.



   For each Permission the system shows the currently defined access rights to three main modules:

   - *Scheduler* – indicates whether the user has access to the Meeting Scheduler module. This option is not relevant to MGC Manager users.
   - *Monitoring Conference* – indicates whether the user has access to the Meeting Director module. This option is not relevant to MGC Manager users.
   - *Database Configuration* – indicates whether the user has access to the administrator tables of the database.

Sorting the Permissions List

You can sort the Permissions in ascending or descending order alphabetically, by clicking on the **Name** column heading.

Defining a New User

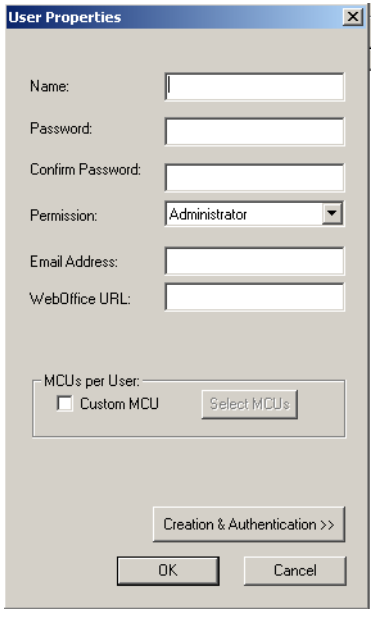
The database includes the list of all the users that can access the database from the MGC Manager and their access rights.

The user definition is used in Ad Hoc conferencing when the WebCommander is used as the External database application for conference initiation and access validation. For more information about Ad Hoc Conferencing, see Chapter 3, "Ad Hoc Conferencing and External Database Authentication".

To define a new User:

1. In the *Browser* area, right-click the *Users* icon, and click **Add New User to DB**.

The *User Properties* dialog box opens.



2. Define the following parameters:

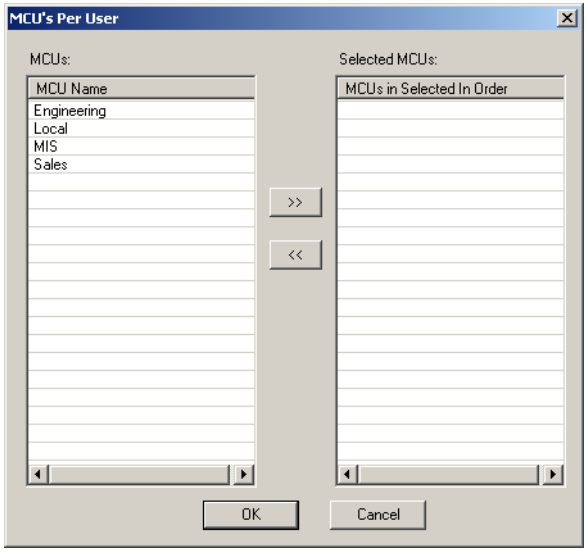
Table 6-5: User Properties Options

Field	Description
Name	Enter the name of the user.
Password	Enter the password to be used by the user when accessing the MGC Manager - Database Manager module.

Table 6-5: User Properties Options (Continued)

Field	Description
Confirm Password	Type the identical string entered in the *Password* field to confirm the password. If a mistake is made typing the password string, a "Wrong Password confirmation" error message will appear.
Permission	Select the Permissions (access rights) type for the user from the drop down list. The permission type is defined in the Permissions table. It defines the modules the user can access and the functions s/he can perform.
Email Address	If the email option is enabled in the permissions selected for the user, enter the user's email address. This address will be used to notify a user when a reservation is scheduled. This is for the WebCommander only.
WebOffice URL	The web site or destination address of WebOffice.
MCU per User – Custom MCU	The system administrator can select the MCU's on which the user may schedule reservations or start On Going Conferences. Select this check box to select the MCU's for the user. When cleared, the user will be able to run conferences on all the MCU's defined in the MGC Web Server.
Select MCUs	Click this button to designate the MCUs on which the user can run conferences.
Creation & Authentication	Click this button to expand this dialog box to reveal additional fields for creating and authenticating conferences and participants. **Note:** These additional fields are used when WebCommander is used as the external database application for conference initiation and conference access authentication.

3. To select the MCUs for a user, in the *User Properties* window, select the **Custom MCU** check box and then click the **Select MCUs** button.
   The *MCUs Per User* dialog box opens.



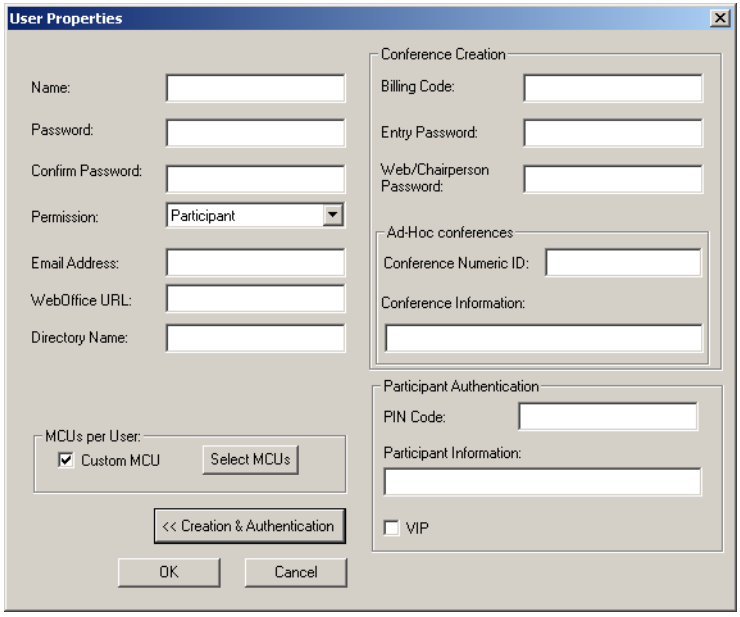
   The *MCUs* list shows all currently defined MCUs that were not assigned to the user. The *Selected MCUs* list shows the MCUs currently assigned to the user.

4. To assign MCUs to the user, in the *MCUs* list, click the MCU name(s) and then click the **Add [>>]** button. Multi-selection is available using standard Windows conventions.
   The selected MCUs appear in the *Selected MCUs* list.

   To cancel the assignment of MCUs to the user, in the *Selected MCUs* list, click the MCU name(s) and then click the **Remove [<<]** button. Multi-selection is available using standard Windows conventions.
   The unassigned MCUs appear in the *MCUs* list.

5. Click **OK** to return to the *User Properties* dialog box.

6. Click the **Creation & Authentication** button to display additional parameters.



These additional fields are used when WebCommander is used as the external database application for conference initiation and conference access authentication.

7. Define the following parameters:

Table 6-6: Creation & Authentication parameters

Option	Description
Conference Creation	
Billing Code	Enter the billing code that will be added to the conference parameters when starting a new On Going Conference from the New Meeting window or from the MGC Personal Scheduler (Outlook's Add-on application). In Ad Hoc conferencing, when the MCU is configured to use the WebCommander Server Manager as the External database application for authentication, the billing code defined here overwrites the billing code defined in the Ad Hoc Profile.
Entry Password	Enter the conference entry password that the participants must enter to connect to the conference. This password is assigned to the conference scheduled or started from the New Meeting window or from the MGC Personal Scheduler. In Ad Hoc conferencing, when the MCU is configured to use the WebCommander Server Manager as the External database application for authentication, the conference entry password defined here overwrites the conference entry password defined in the Ad Hoc Profile.
Web/Chairperson Password	Enter the chairperson password the participant must use to connect to the conference as chairperson or to view the conference properties from the WebCommander Web site. This password is assigned to the conference scheduled or started from the New Meeting window or from the MGC Personal Scheduler. In Ad Hoc conferencing, when the MCU is configured to use the WebCommander Server Manager as the External database application for authentication, the chairperson password defined here overwrites the chairperson password defined in the Ad Hoc Profile.

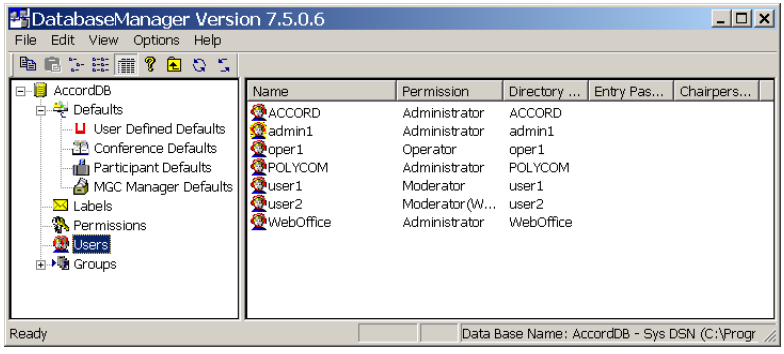
Table 6-6: Creation & Authentication parameters (Continued)

Option	Description
Ad Hoc Conferences	
Numeric ID	In Ad Hoc Conferencing, the Numeric ID is used for authentication purposes. When a participant connects to an Ad Hoc-enabled Entry Queue, that is configured to access the WebCommander as the external database application, the Numeric ID is used to verify whether the participant is authorized to start a new On Going Conference. If the Numeric ID exists in the WebCommander database, a new conference is started and this Numeric ID is assigned to the conference. The Participant who has started the On Going Conference is automatically created and added to the conference. If the Numeric ID does not exist in the WebCommander database, the participant is disconnected from the MCU.
Conference Information	Enter the Contact Information for the conference. This parameters overwrites the User Defined 1 field information in the Profile.
Participant Authentication	
PIN Code	Enter a personal code to be assigned to this user. This PIN code is used to find the participant in the WebCommander database - Users table in Ad Hoc conferencing, when the IVR Service is configured to access the external database for conference entry password or chairperson password authentication.
Participant Information	Enter general information about the participant. The information in this field replaces the information defined in the User Defined 1 field of the Participant properties when connecting to the conference.
VIP	Select whether this user will be set as VIP when connecting to the conference. This field overwrites the VIP definition of the Participant properties for this user when connecting to the conference.

8. Click **OK** to confirm and add the User to the database.

Viewing the Users List

1. In the *Browser* area, click the *User* icon.
   The Users list is displayed in the *Status* area.



   The system displays in a table format the User Name, Permission Access Level, Directory Name, Entry Password and Chairperson Password as defined for each User.

Sorting the Users List

You can sort the users according to the *Name*, *Permission*, *Directory* or *Password*, by clicking on the appropriate column heading.

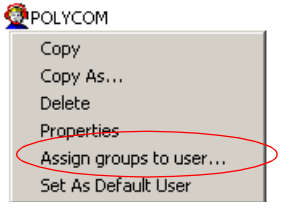
Assigning Groups to Users

Groups are used to increase the system security by allowing users to view reservation and participant data only from groups to which they have access rights.

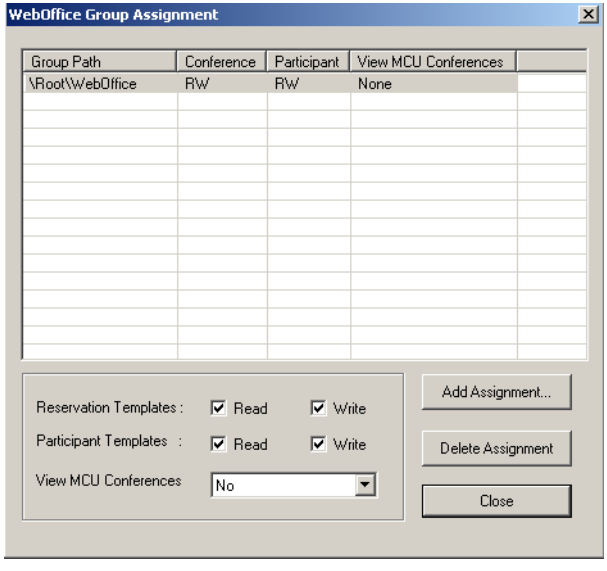
Once the Groups are created, you can define the access rights of users to each of the existing groups in the Group hierarchy. The definition can be done either per group or per user. When defining the access rights per user, you select the groups that the user will be able to access. When defining the access rights per group you select the users who will be able to access a certain group. For more details regarding the Groups table and the assignment of access rights to a group, see “Setting the Access Rights to a Group” on page 6-66.

To assign groups to users:

1. In the *Browser* area, click the *User* icon to list the currently defined users.
2. Right-click the icon of the user whose access right you wish to define, and then click **Assign groups to user**.



The *<User Name> Group Assignment* dialog box opens, listing the current Groups to which the user has access rights.



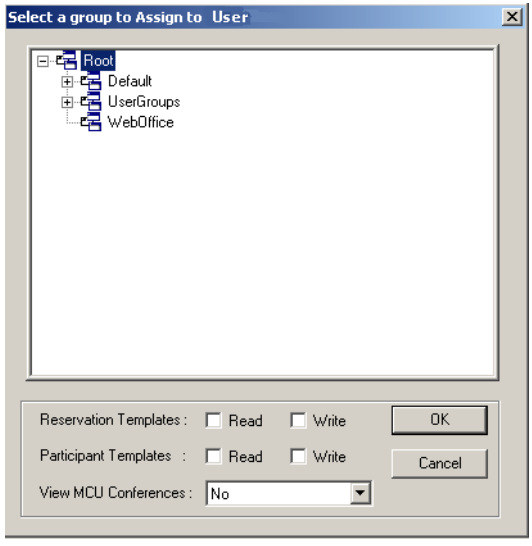
The list displays the groups already assigned to the User with the access rights the user has to each of these groups.

You may modify the user's access rights to a specific group by clicking the group and then checking the appropriate Read and Write properties.

3. To assign additional groups to the user, click the **Add Assignment** button.

To remove an assigned group, select the group you wish to delete, and then click the **Delete Assignment** button.

4. If you have selected to *Add Assignment*, the *Select a group to Assign to <user>* dialog box opens.



- Click the group to assign to the user. If needed, click the plus **[+]** icon to expand the Groups tree until the desired group is shown.
- Define the user ability to view, create or modify reservation and Participant templates.
  - Click the **Read** check box to enable the user to view the templates assigned to the group without modifying them or adding new templates to the group.
  - Click the **Write** check box to enable the user to view, add, remove and modify templates assigned to the group. When checking this option, the *Read* check box is automatically selected.
    Leaving the *Read* and *Write* check boxes cleared means that the user will not be able to view, modify or create new participant or Reservation templates.
- In the *View MCU Conferences* list, select one of the following options:

  No – The user will not be able to view the reservations, Meeting Rooms and On Going Conferences assigned to other users of the same group,

even if the View All options are enabled in the Permissions assigned to this user.

Enter with Password – The user will be able to view Reservations, Meeting Rooms and On Going Conferences scheduled by other users assigned to this group, if they enter the appropriate password.

Enter without Password – The user will be able to view all Reservations, Meeting Rooms and On Going Conferences scheduled by other users assigned to this group without any restrictions.

5. Click **OK**.
   The system returns to the *<User Name> Group Assignment* dialog box and adds the group to the list of groups to which the user has access rights.
6. Add additional groups or click the **Close** button to complete the assignment procedure.

Groups

The User Tables (Participants and Reservations Tables) are organized in Groups. The Groups increase the system security, as they limit the access to conferences and participant data to authorized users only. The Groups are part of the administrative tables.

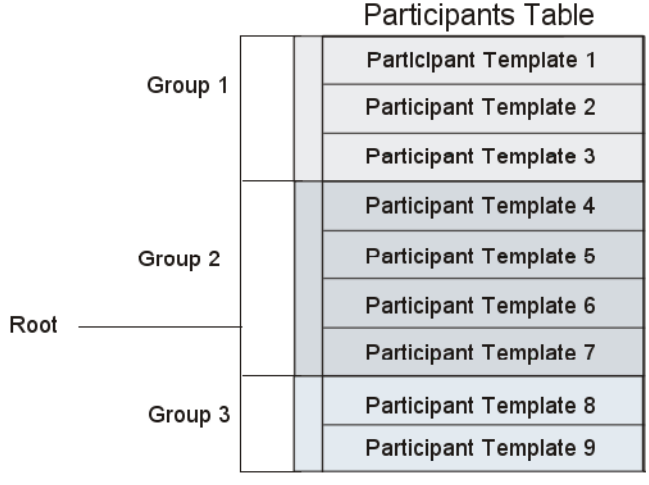


Figure 6-3: Participants Table organized in Groups

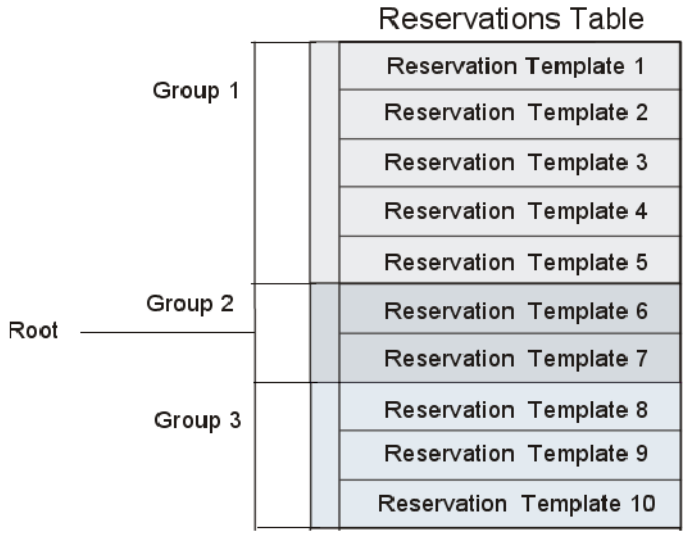


Figure 6-4: Reservations Table organized in Groups

In the Groups table, you define the various groups and their hierarchy.

Users are assigned access rights to specific groups and can add or modify Participant or Reservation templates only in their assigned groups. One user may be assigned to many groups and one group may be assigned many users.

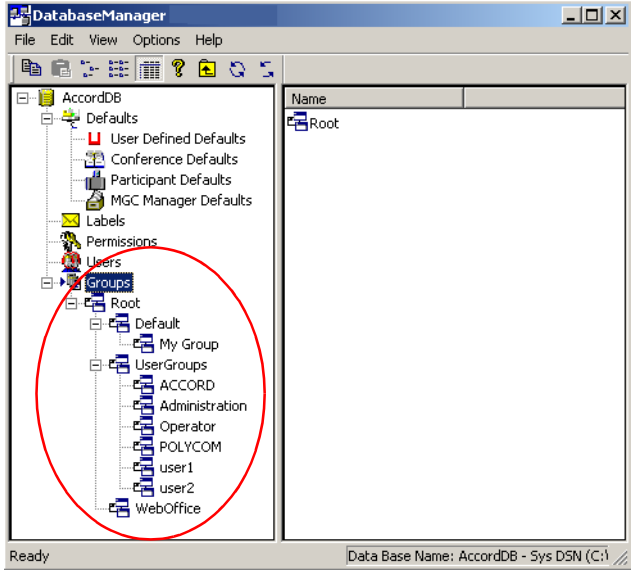
New Reservation and Participant templates are created within the selected group and they are automatically assigned to that group. Although the Participants table and the Reservation table are separate entities, they are both organized by the same Group hierarchy.

Only users who have permission to configure the database can define the Groups hierarchy and the access rights of users to the various Groups in the database.

Defining a New Group

To define a new group:

1. Log in to the MGC Database Manager and list the Database categories.
2. Expand the Groups tree by clicking the *plus* **[+]** icon next to the *Groups* icon.

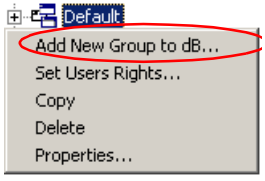


3. If the list already includes several groups, expand the tree until the group to which you wish to add a sub-group is displayed.

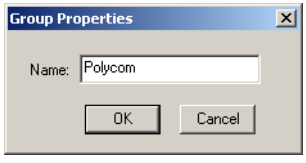
   On first entry, only the Root group is listed when expanding the *Groups* tree.

When upgrading from a previous version that did not support Groups, when the Update Database process is performed by the MGC Database Manager, it creates a group for each of the listed users, and assigns access rights to that group.
Participant and Reservation templates are automatically assigned to the appropriate user group according to the user name that appears in the *Owner* field. If no Owner is defined, they are automatically assigned to the Root group. Therefore, only users who have access rights to the Root group (usually administrators) are able to view these conferences. The templates can be moved to the appropriate group in the Groups tree in the MGC Manager – Database Manager module using Copy and Paste (drag & drop is unavailable).

4. Right-click the icon of the groups to which you want to add a sub-group and then click **Add New Group to DB**.



The *Group Properties* dialog box opens.



5. Enter the group name and click **OK**.

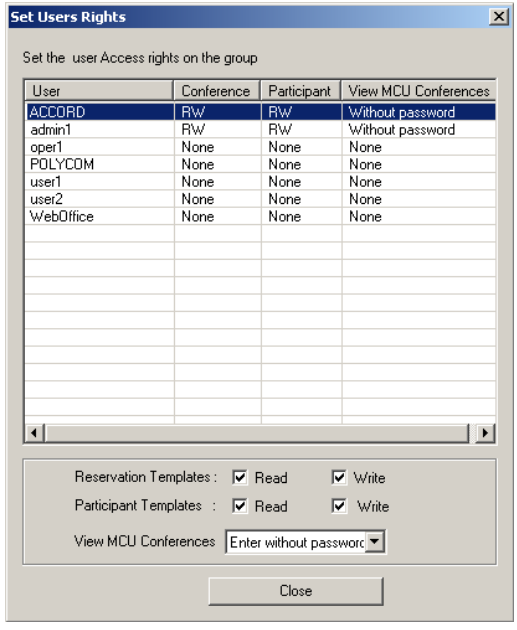
The new group is added to the Groups tree.

Setting the Access Rights to a Group

To view group Access Rights:

1. In the *Browser* area, right-click the icon of the group whose access rights you want to view, and then click **Set Users Rights** on the pop-up menu.

The *Set Users Rights* dialog box opens.



This dialog box lists all the currently defined users. It also displays their current Read and Write permissions to the Reservation and Participant templates assigned to this group.

RW – indicates that the user may view (Read) and add, delete or modify (Write) templates.

R – indicates that the user may only view (Read) templates.

None – indicates that the user has no access rights to this group.

To set or modify the access rights of a user to the group:

1. Click the user name.
2. Click the *Conference Templates* **Read** and **Write** check boxes to enable/disable the user to view (read) and/or add (write) conference templates to the group. Click the **Write** check box to automatically check the **Read** check box.
3. Click the *Participant Templates* **Read** and **Write** check boxes to enable/disable the user to view (read) and/or add (write) Participant templates to

the group. Click the **Write** check box to automatically check the **Read** check box.

Leaving the check boxes cleared means that the user has no access to the Reservation and Participant templates assigned to this group (it will appear as None in the list).

4. In the *View MCU Conferences* list, click one of the following options:
   - ***No*** – The user will not be able to view the reservations, Meeting Rooms and On Going Conferences assigned to other users of the same group, even if the View All options are enabled in the Permissions assigned to this user.
   - ***Enter with Password*** – The user will be able to view Reservations, Meeting Rooms and On Going Conferences scheduled by other users assigned to this group, if the appropriate password is entered upon their selection.
   - ***Enter without Password*** – The user will be able to view all Reservations, Meeting Rooms and On Going Conferences scheduled by other users assigned to this group without any restrictions.
5. Click the **Close** button to finish the access rights definition and exit this dialog box.

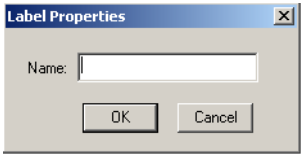
Defining a New Label

Labels are used to sort Reservation or Participant templates. Labeling enables the remote user to filter conferences or Participant templates when accessing the database to schedule or monitor conferences.

To define a new Label:

1. In the *Browser* area, right-click the *Label* icon.
2. Click **Add New Label to DB** in the pop-up menu.

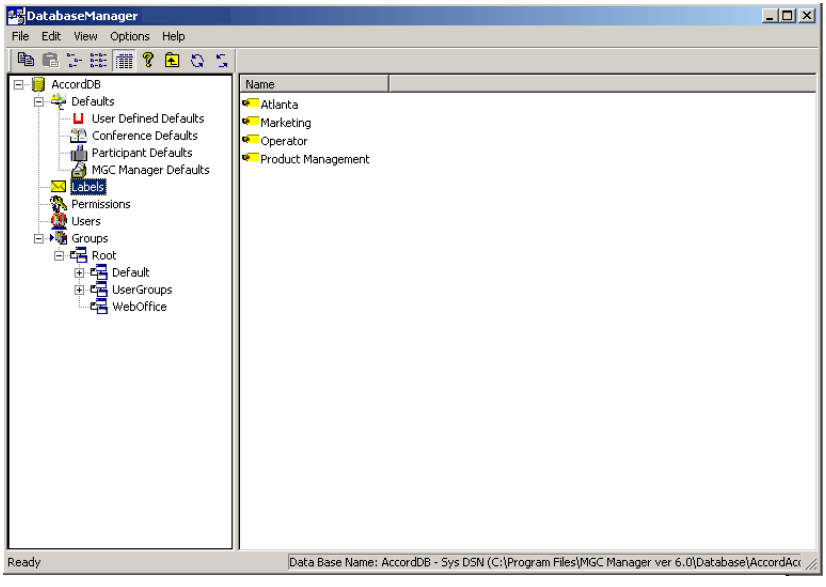
The *Label Properties* dialog box opens.



3. In the *Name* box, type the label name. Sorting of the conferences or parties may be done according to this name.
4. Choose **OK** to confirm and add the new Label to the database.

Viewing the Labels List

In the Browser area, click the **Labels** icon.
The *Labels* list is displayed in the *Status* area.



Sorting the Labels List

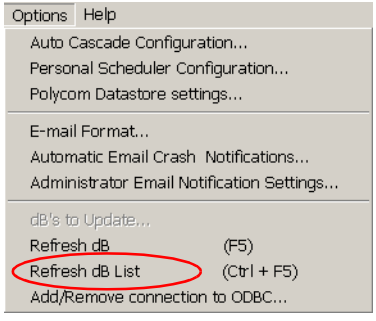
You can sort the labels alphabetically by name, in ascending or descending order, by clicking on the **Name** heading.

Refreshing the Database List

Databases can be added to the database list used by the MGC Database Manager externally, via the *Control Panel – Data Source (ODBC*). In such a case, you need to refresh the database list to gain access to that database from the MGC Database Manager application.

To refresh the database list in the MGC Database Manager:

- On the *Options* menu, click **Refresh dB List**.



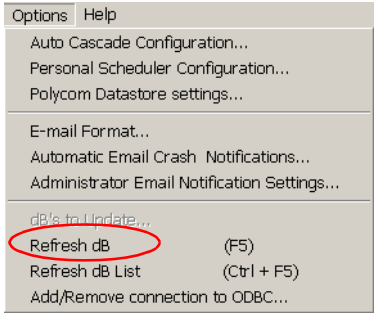
The database list in the MGC Web Server Manager window is refreshed and the new databases are listed.

Refreshing the Database

Several users may access databases concurrently from the MGC Web Server Manager application as well as from the MGC Database Manager module of the MGC Manager application. When that happens, the information that you see in the MGC Database Manager window may not be updated with the latest changes performed by other users. It is therefore recommended to periodically refresh the database to make sure that the latest data is displayed.

To refresh the database:

- On the *Options* menu, click **Refresh dB**.



7

Database Templates

A template is a set of parameters that define a conference or participant and it is saved to a database for repeated use. Participant and Reservation templates are organized in Template Groups.

This chapter describes the User Tables of the Database:

- Reservation templates
- Participant templates

Templates Overview

A Reservation template is useful when you run a series of conferences that involve basically the same parameters, such as participants, transmission sites and phone connections. A Reservation template contains the definitions of one conference. These definitions can be partial or complete definitions of the conference.

A Reservation template is a conference definition stored in the database or in a Reservation Template file. The database or a Reservation Template file can contain several Reservation templates.

A Participant template contains all the information required to define a participant in a conference.

A Participant template is stored in the database or in a Participant Template file. The database or a Participant Template file can contain several Participant templates.

Reservation and Participant Template files are proprietary tools to organize data. Data cannot, therefore, be easily exchanged between external, standard databases and the MGC Manager template files.

Using Microsoft Access or SQL databases to organize the conference and participant data enables the MGC Manager users to easily share data with external applications.

Template files and Reservation and Participant databases can be installed on the LAN server or on the local computer running the MGC Manager.

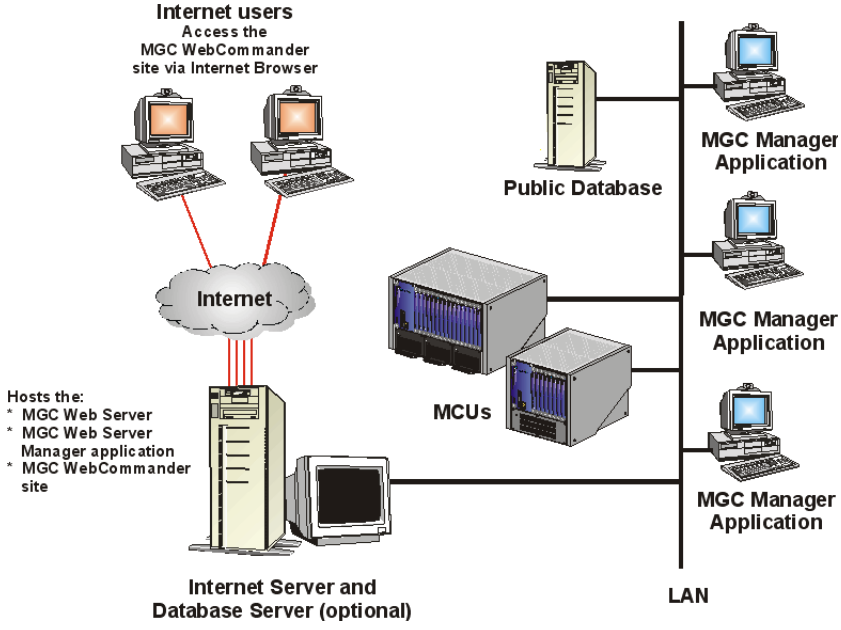


Figure 7-1: Data Flow

Figure 7-1, “Data Flow”describes the system structure with public databases that are used by all the users. In this configuration several operator workstations running the MGC Manager application are connected to one or more MGC units. The public databases are installed on a LAN server and they can be accessed by all the MGC Manager users on the network and from the WebCommander site over the Internet using the Web browser. In addition, operators can have personal databases installed on their computers. Unless defined as shared, the personal databases cannot be accessed by other network users, and can be used only from a specific operator workstation.

Users upgrading from previous versions can convert the existing template files to the active database. It is still possible, however, to work with the template files together with the database. For more details on converting template files to database format, see Chapter 8, “Converting MGC Templates to Database Templates” on page 8-18.

Logging into the User Tables of the Database

The User Tables are used to store Reservation and Participant templates. The tables are organized in Template Groups.

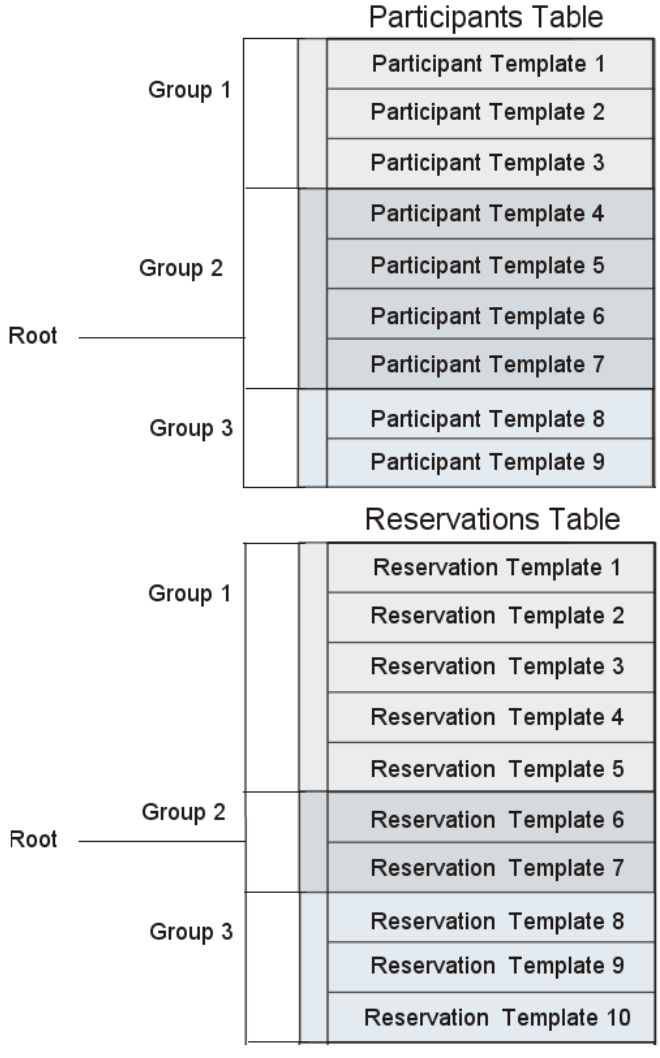


Figure 7-2: Database Organization in Template Groups

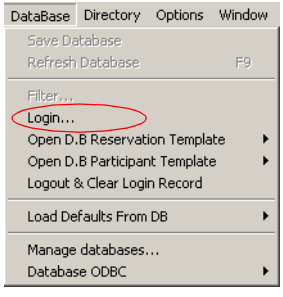
The access rights of users to the Participants and Reservation Template Groups are defined by the administrator during the configuration stage. Access rights determine the user's ability to view, modify or create templates in a specific Template Group. Template Groups enhance the system security, by enabling the system administrator to limit the user access to specific Template Groups. This feature is important when the database is accessed from remote sites and over the Internet.

The Template Groups are defined in the MGC Database Manager, in the administrative segment of the database.

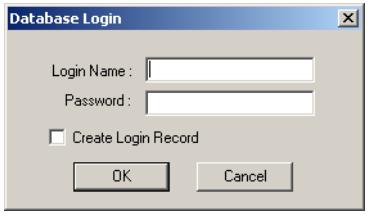
To view, modify or define the Reservation and the Participant templates stored in the database, you must first log in to the database.

To log in to the database and list the Reservation or Participant templates:

1. On the *Database* menu, click **Login**.



The *Database Login* dialog box opens.



The *Login Name* field displays the login name that was previously used. The first time you log in (or whenever the registry is empty), the login used to log in to Windows will be automatically referenced when accessing the database.

2. If required, type your *Login Name*.

The following default login names and passwords are defined in the database:

Table 7-1: Database Passwords

User Name	Password	Permission Type
POLYCOM	POLYCOM	Administrator
ACCORD	ACCORD	Administrator
admin1	123	Administrator
oper1	123	Operator
user1	123	Moderator
user2	123	Moderator (Monitoring only)
Part1	123	Participant

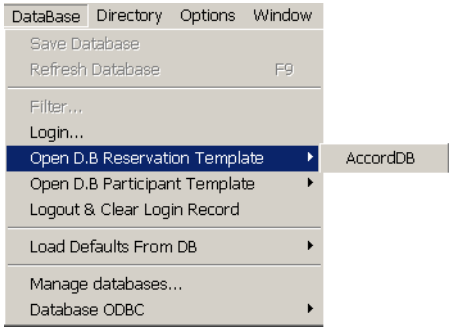
These users differ in the functions they are allowed to perform (applies mainly to the Database Manager and the WebCommander applications), the Template Groups to which they are assigned and the information they can access. For a description of the default permissions, see the MGC Manager User's Guide, Volume II, Chapter 6, "Logging into the Database Manager".

3. Enter your password in the *Password* field and select the **Create Login Record** checkbox if you want the Login process to be automated.

The Create Login Record option allows you to define your login Name and Password for the session. The name and password you enter here become the defaults for the session. You will not be asked to enter them each time you connect to an MCU.

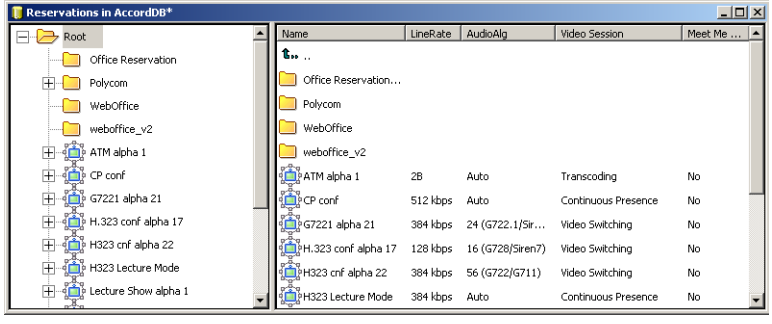
4. Click **OK**.
   The *Database Login* dialog box closes.
5. On the *Database* menu, select **Open D.B. Reservation Template** or **Open D.B. Participant Template**, and then select the database you want

to work with. (The system lists all databases you are entitled to work with according to your database *Login Name* and *Password*.)

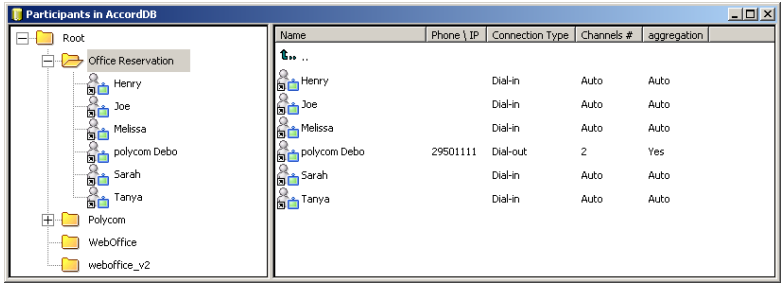


The window of the selected database opens.

— Reservations in database window

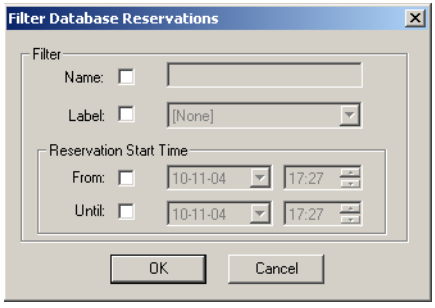


— Participants in database window



6. When the list of Reservation or Participant templates is very long, click **Filter** from the *Database* menu.

The *Filter Database Reservations* or *Filter Database Parties* dialog box opens.



7. Select one or more of the following filters and specify values for them:
   - *Name* – The name of the template. Wild cards can also be used.
   - *Label* – The label assigned to the template during its definition. The labels are defined in the Database Manager.
   - *Reservation Start Time* – This option is enabled only for Reservations and Requested Meetings. It enables you to filter reservations according to the start date and time set during the reservation definition (either in the WebCommander application or in the MGC Manager). By default, the current date and time is displayed.
8. Click **OK.**

   The filtered list of Reservation or Participant templates is displayed.

The Template Groups hierarchy is defined in the Database Manager. The administrator can add or delete Template Groups and sub-Template Groups in the hierarchical tree. Users can, depending on their access rights, add or delete Template Groups directly from the Reservations or Participants in database windows.

For example, if users have only *Read* permissions in a database, they are able to view and change a Template Group, but are not be able to save the changes in the database. If users have Read and Write permission, they are able to view, make changes and save changes to the database. If the users have no *Read* or *Write* permission, they will not be able to access the respective database windows. For more information about assigning *Read*/*Write* permissions see "Defining a New User" on page 6-53.

Reservation Templates

Setting up a conference to start some time in the future is referred to as "scheduling a conference reservation."

Setting up such a conference to start immediately is referred to as "defining an On Going Conference."

Regardless of whether you are scheduling a conference reservation or defining an On Going Conference, use one of the following techniques to set up the conference:

- Define a conference reservation or an On Going Conference directly by assigning values for each property of the conference. ***The reservation definition is erased when the conference finishes.***
- Use a Reservation template defined in the database or in a Reservation Template file.

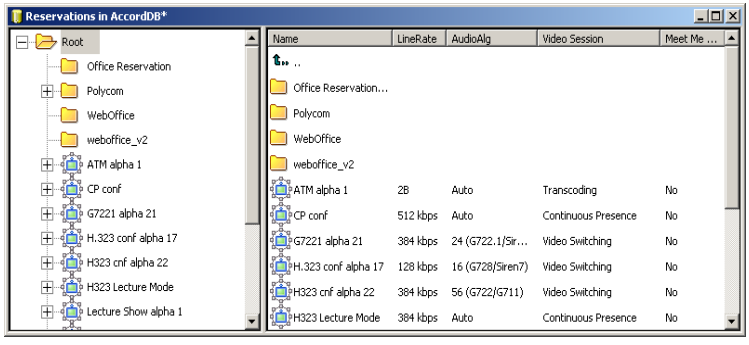
Defining Reservation Templates in the Database

Reservation templates can be added to a database using the following methods:

- Defining the Reservation template directly from the *Reservation in Database* window. For more details see "Defining a New a Reservation Template" on page 7-10.
- Copying the Reservation parameters from an On Going Conference or Reservation. For more details, see see Chapter 8, "Copying an On Going Conference or a Conference Reservation to a Reservation Template File or Reservation Database" on page 8-52.
- Converting existing templates from Reservation Template files to the database format. For more details, see see Chapter 8, "Converting Individual Reservation Templates into the Reservations Database" on page 8-19.

Defining a Reservation Template in the Database

The following procedure describes the definition of a new Reservation template in the database. Once created, the template can be used to initiate an On Going Conference or a Reservation that will automatically start at a predefined date and time. This is the recommended method to set up conferences, as it allows you to save the conference for repeated use or to use it as a basis for reserving other conferences with similar properties. To define a new Reservation template in the database, you must first log in to the database and open the Reservations in Database window. For more details, see "Logging into the User Tables of the Database" on page 7-3.



The Reservation templates in the database are organized in Template Groups. Users can only access the Template Groups to which they have the appropriate access rights. The access rights are assigned to them by the administrator. For more details about the organization of the Reservation templates in Template Groups in the databases and Permissions refer to "Defining a New a Reservation Template" on page 7-10 and Chapter 6, "Assigning Groups to Users" on page 6-60.

Defining a New a Reservation Template

Open the *Reservations in <database>* window

Expand the Groups' tree and locate the required Group

Select **New Res Template** from the Group right-click pop-up menu

The **General** tab opens. Define the conference type, duration and password

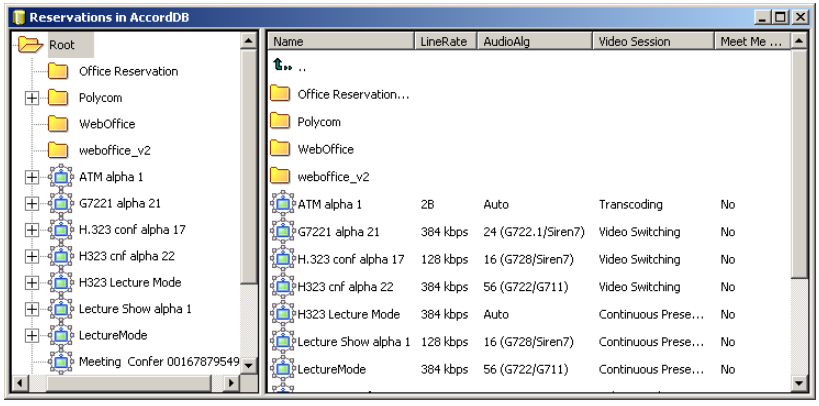
Define the conference parameters in the **Settings** tab

Select or define the conference participants in the **Participants** tab

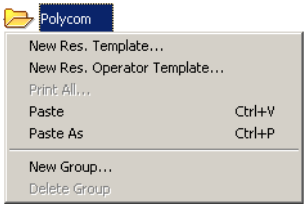
Select the *Video Layout* (Continuous only) in the **Video** tab

If required, define the phone number to be assigned to the conference in the **Meet Me Per Conf.** tab

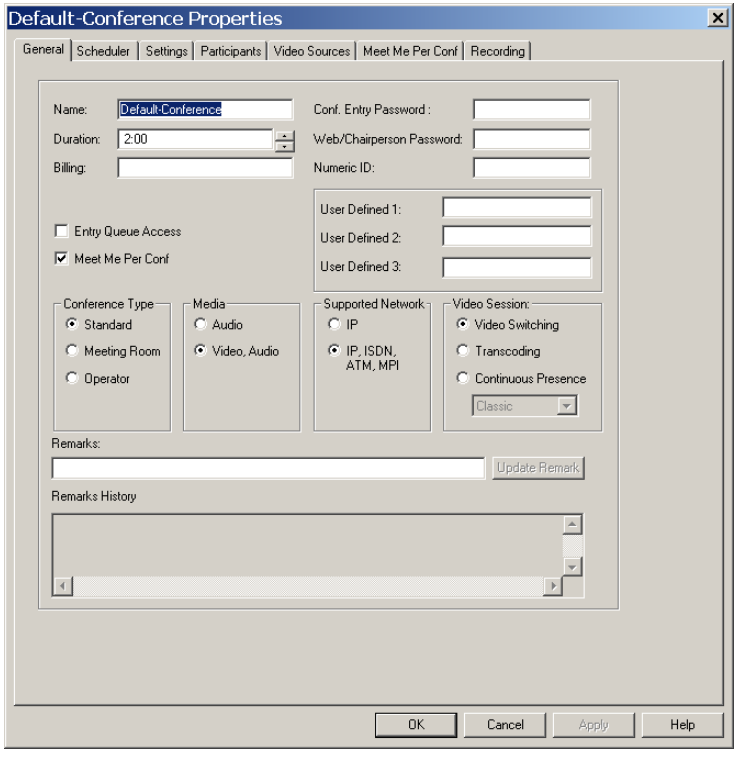
1. Log in to the database, and open the *Reservations in Database* window.
2. In the left pane (*Groups Browser* area), expand the *Groups* tree (double-click the icon of the Template Group to expand) until you locate the Template Group to which you want to add the Reservation template.



3. Right-click a *Group* icon, and then click **New Res. Template**.



The *Conference Properties - General* dialog box opens.



Conference Parameters

The conference definition options include both Audio Only and Video and Audio conferences. For information on the conference definition parameters when defining Video and Audio conferences, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining a New Video Conference". For Audio Only and Audio Look and Feel settings refer to the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining New On Going Audio Conferences".

The conference properties are logically grouped in the following tabs:

— *General* – defines the conference name, duration, password and type

— *Scheduler* –defines the duration and time parameters.

The Scheduler tab appears only if the *Show Time in DB Conference Template* option is enabled in the MGC Manager Defaults in the MGC Database Manager application.

— *Settings* – defines the conference parameters, such as line rate, audio algorithms, audio tones, video and more

— *Participants* – adds participants to the reservation either from the Participant database or by defining new participants

— *Video Sources* – selects the video layout (when the session type is set to Continuous Presence or Software CP) and enables Lecture Mode

— *Meet Me Per Conference* – defines Meeting Rooms and Meet Me Per Conference Reservation templates (when the *General - Meet Me Per Conf* check box is selected).

— *Recording* – sets up recording options

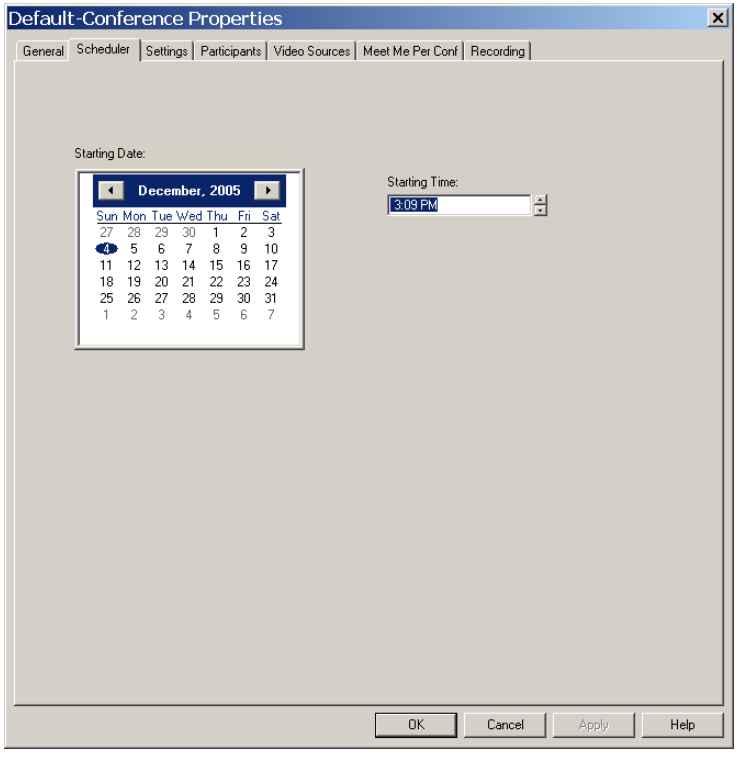
Conference General Parameters

4. Enter the template name in the *Name* box, and fill in the other general parameters.

Setting the Scheduler Parameters

5. Click the **Scheduler** tab to define the conference starting date and time.

   The *Conference Properties - Scheduler* dialog box opens.

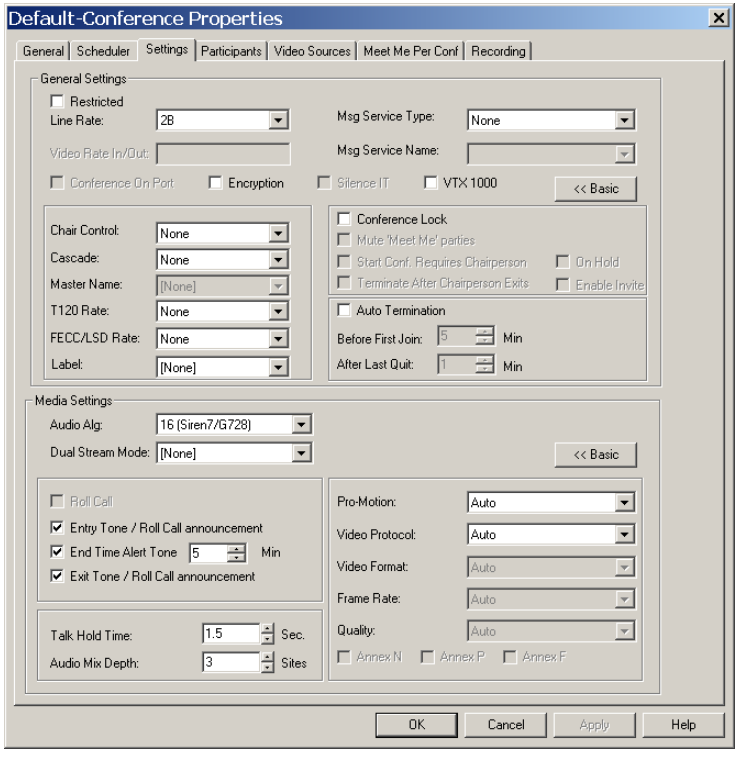


   The date and time parameters are used for filtering, enabling you to list all the templates that should be used to start an On Going Conference on the selected date. This can be done, if you do not want to reserve an actual conference on the MCU and use MCU resources.

6. Define the start date and time.

Defining the Settings Parameters

7. Click the **Settings** tab to define the conference technical parameters. The *Conference Properties - Settings* dialog box opens.

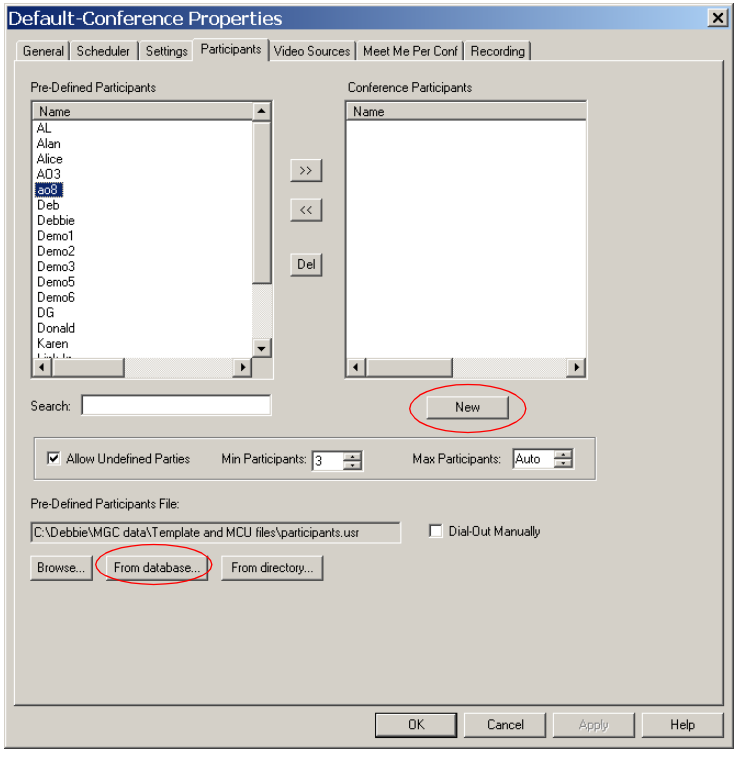


All the fields in the *Settings* dialog box display the default values defined in the MGC Database Manager - *Res Defaults*. You can change them as required.

Assigning Participants to the Conference

Participants can be added to the Reservation template either by selecting the participants from the Participant database, from a Participant Template file or by defining them directly during the Reservation template definition.

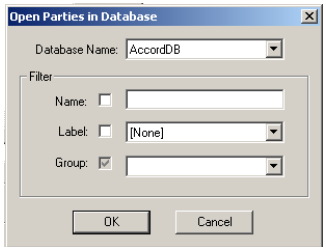
8. Click the **Participants** tab to add participants to the Reservation template. The *Conference Properties - Participants* dialog box opens.



At this point, you can assign a participant to the conference from the Participant database, from a Participant template file, from an LDAP compatible directory (if one is configured) or you can define a new participant. Participants that are assigned to the conference from the database are linked participants.

9. To display the list of participants stored in the database, click the **From Database** button.

The *Open Parties in Database* dialog box opens.



a. If more than one database is configured in your system, select the appropriate database from the *Database Name* list.

b. Filter the list of participants by clicking the *Name* and/or *Label* check boxes and then entering the appropriate character string in the *Name* field and/or selecting the appropriate label from the drop-down list.

c. The *Template Group* option is enabled by default, displaying the highest Template Group in the Groups hierarchy to which the logged in user has access rights. You can select another group from the Template Groups hierarchy from the drop-down list. Only Template Groups to which you have access rights are listed in the *Group* drop-down list.

d. Click **OK**.
A list of all the participants in the filtered category is displayed in the *Pre-Defined Participants* list, and the name of the participant's Group is displayed in the *Pre- Defined Participants File* box.

When assigning participants from a database other than the one to which you are adding the current Reservation template, the participants will be embedded in the conference and not linked.

10. To display the list of participants stored in a Participant Template file, click the **Browse** button.

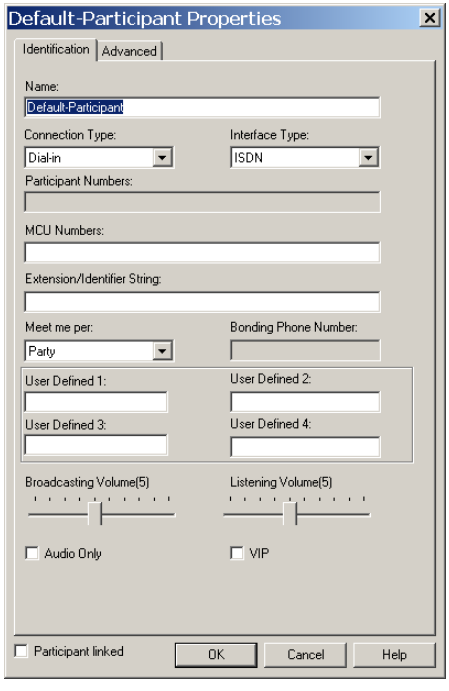
    The *Open* dialog box appears. Use the standard Windows techniques to select the desired Participant Template file.

    The full path and name of the Participant Template file appear in the *Pre-Defined Participants File* box and the participants defined in the Participant Template file appear in the *Pre-Defined Participants* list.

11. To assign the participant(s) to the Reservation template, in the *Pre-Defined Participants* list, select the participant name(s) and then click the **Add** >> button. Multi selection of Participants is available using standard Windows conventions. The selected participants appear in the *Conference Participants* list.

Repeat steps 9 to 11 to assign participants from other Template Groups and databases to the Reservation template.

12. Define a new participant directly as follows:
    a. Click the **New** button.
    b. The *Participant Properties - Identification* dialog box opens.



    c. In each field, the system displays the default values as defined in the *Participant Defaults* set currently loaded in the database. For more details regarding the Default sets, refer to Chapter 6, "Managing the Defaults Sets" on page 6-47.

d. Define the participant *Name*, *Interface Type* and all required *Identification* parameters. For a detailed description of the *Identification* parameters for the ISDN, ATM, MPI, H.323 and SIP interface types, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties". For a detailed description of the *Identification* parameters for T1-CAS interface types, see the MGC Manager, User's Guide, VoicePlus Edition, Chapter 2, "Defining Participant Properties".

e. To save the participant to the database and define it as a linked participant, select the **Participant Linked** check box at the bottom left corner of the dialog box. If this check box is cleared, the participant will be an embedded participant.

f. Click the **Advanced** tab and define the required parameters. For a detailed description of the *Advanced* parameters for the ISDN, ATM, MPI, H.323 and SIP interface types, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties". For a detailed description of the *Advanced* parameters for T1-CAS interface types, see the MGC Manager, User's Guide, VoicePlus Edition, Chapter 2, "Defining Participant Properties".

g. To save the new participant to the database select the *Save Participant* check box. The participant will be linked to the reservation, and the parameters will be added to the Database when the new Reservation template is saved to the database. The Participant template is automatically assigned to the same group as the Reservation template. If the participant is not added to the database, the participant will be an embedded participant

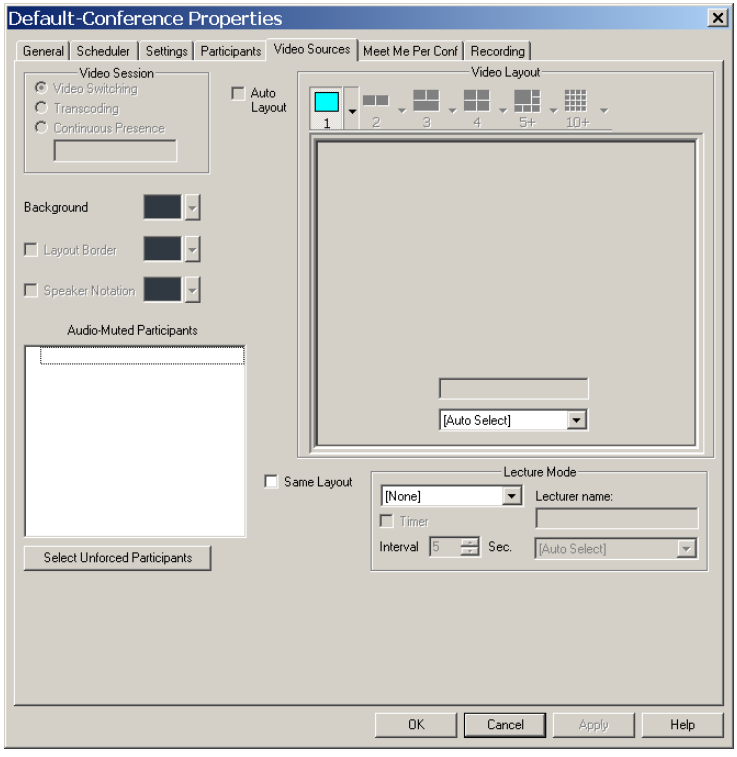
h. Click **OK** to complete the Participant properties definition. The new participant is added to the *Conference Participants* list of the Reservation template.

Setting Video Sources

13. Click the **Video Sources** tab to select the Video Layout for the conference. This option is applicable to Continuous Presence conferences and is used to enable the Lecture mode. For more details on Lecture Mode, MGC Manager User's Guide, Volume I, Chapter 10.

This dialog box is hidden when defining an Audio Only conference or when Audio Look & Feel is selected.

The *Conference Properties - Video Sources* dialog box opens.



In Continuous Presence conferences the *Video Sources* dialog box is used to determine what the participants see on their screens.

14. Select the appropriate *Video Layout*, and other properties as required.

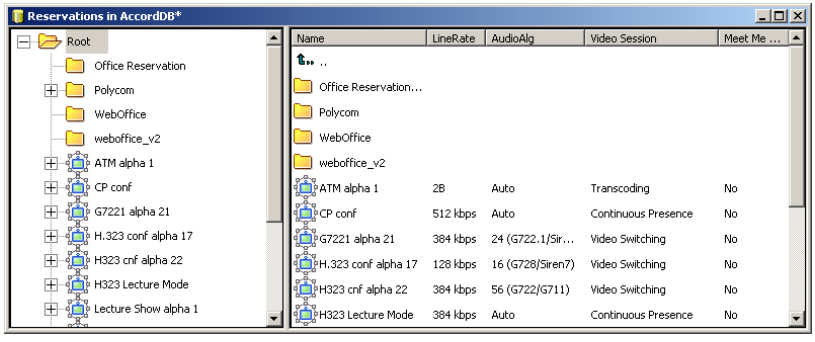
Meet Me Per Conference

One or two phone numbers can be assigned to the conference. Participants wishing to participate in such a conference must dial one of these numbers to be automatically connected to the appropriate conference. For more information on this conference type, see the MGC Manager User's Guide, Volume I, Chapter 7, "Meet Me per Conferences and Meeting Rooms".

Recording

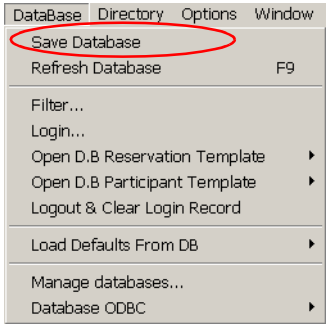
The MGC Manager provides a digital recording option with the Polycom Conference Recorder, enabling recording of the conference audio channel of both Audio Only and video conferences. For more information, see the MGC Manager User's Guide, VoicePlus Edition, Chapter 8, "Recording".

15. To complete the Reservation template definition procedure, click **OK** from any Reservation template *Properties* dialog box. The *Properties* dialog box closes and the new Reservation template is added to the *Reservations in Database* window below the *Group* icon.



The asterisk that appears in the title bar indicates that the database was modified and must be saved to retain the changes.

16. To save changes to the database, click the **Save** button on the toolbar, or select **Save Database** from the *Database* menu.



Starting a Conference from a Reservation Template

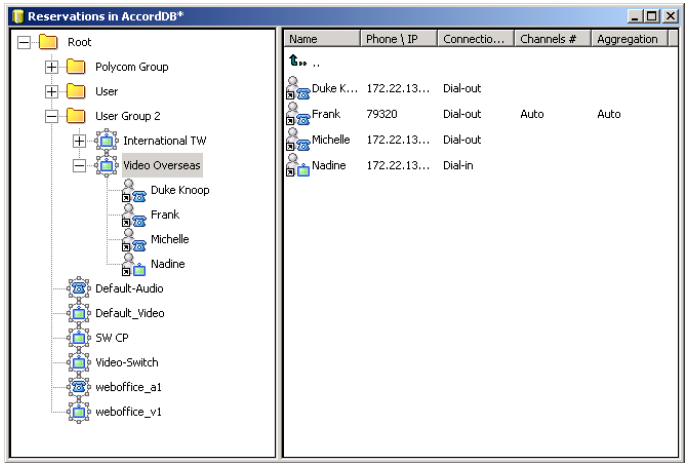
Using the Reservation template, you can schedule a conference to start immediately (On Going Conference), or to start automatically at a predefined date and time (Reservation). For more information, see the MGC Manager User's Guide, Volume I, Chapter 4, "Starting an On Going Conference from a Reservation Template".

Listing the Participants in a Reservation Template

To view the participants assigned to a Reservation template, expand the *Groups* tree to locate the Template Group in which the Reservation template is stored.

To list participants in the Reservation Template:

1. Open the *Reservations in Database* window.
2. Click the plus [+] icon next to the *Groups* icon to expand the Groups tree.
3. Repeat this procedure on all the Root Group and sub-groups until you locate the required Reservation template.
4. Double-click the plus [+] icon next to the desired *Reservation template* icon. This displays the participants below the Reservation template and also in the *Status* area of the window.



The following icons are used to indicate the participant type:

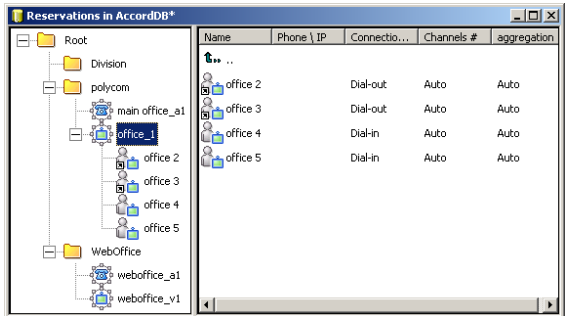
indicates a *Linked* participant

indicates an *Embedded* participant

For more information refer to the section "Adding Participants to a Reservation Template" on page 7-33.

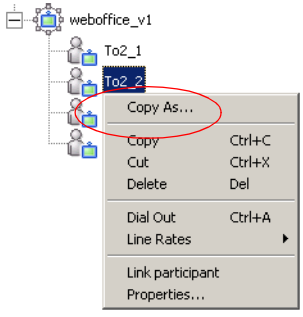
To copy the participant properties from a Database Reservation template:

1. Open the *Reservations in Database* window.
2. Expand the Template Groups tree until you locate the Reservation template containing the participant that you wish to copy.
3. Double-click the *Reservation template* icon or click the plus [+] icon next to the *Reservation template* icon to display the list of participants.

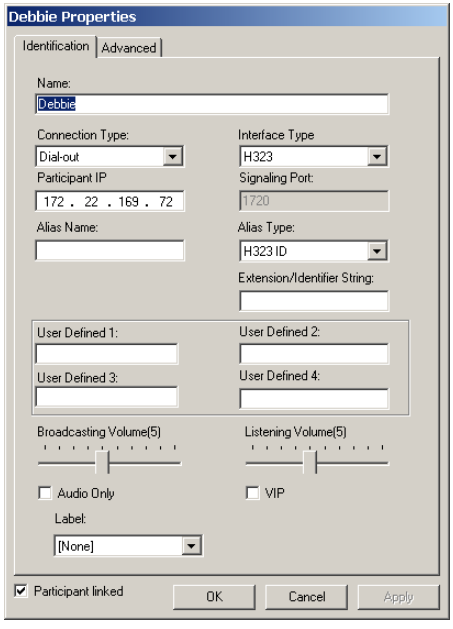


4. Right-click the icon of the participant to copy, and then click **Copy**, or press <Ctrl>+<C>.
   The participant details are copied to the clipboard.

To copy the participant under a new name, click **Copy As**.

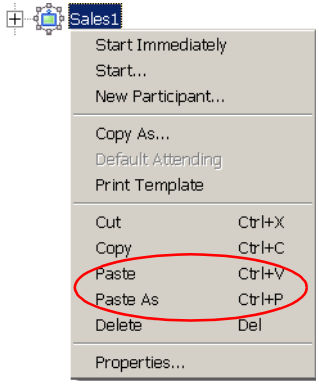


The *Participant Properties - Identification* dialog box opens.



5. Change the participant's name, or any other parameters, and then click **OK**.
   The participant's details are copied to the clipboard under the new name.
6. In the Reservation database, the On Going Conferences, or Reservations list, right-click the icon of the destination conference.

A pop-up menu appears.



7. Click **Paste.** The participant's details are copied to the destination conference or reservation under the same name.

   Alternatively, click **Paste As**.
   The *Participant - Properties* dialog box opens.

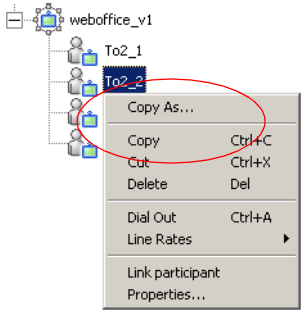
8. If you have selected *Paste As*, type the desired name that you wish to save the participant as, and then click **OK**.

   The participant's details are copied to the new conference or Reservation template under the new name.

To copy the participant properties from a Participant template:

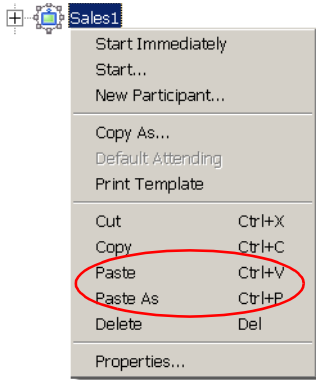
1. Open the *Participants in Database* window.
2. Expand the Template Groups tree until you locate the participant you wish to copy.
3. Right-click the icon of the participant you wish to copy, and then click **Copy** or press <Ctrl>+<C>. The participant is copied to the clipboard.

Alternatively, click **Copy As** to modify the participant name and other properties.



The *Participant Properties* dialog box opens. Change the participant's name, or any other parameters, and then click **OK**. The participant parameters are copied to the clipboard under the new name.

4. Right-click the icon of the destination On Going Conference, Reservation or Reservations template (in the database), and then click **Paste**.
   The participant's details are copied to the destination conference or reservation under the same name



Alternatively, click **Paste As** to modify the participant name or other properties.
The *Participant - Properties* dialog box opens.

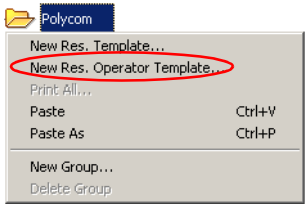
5. Type the desired name that you wish to save the participant as, and then click **OK**.

The participant's details are copied to the destination conference or Reservation template under the new name.

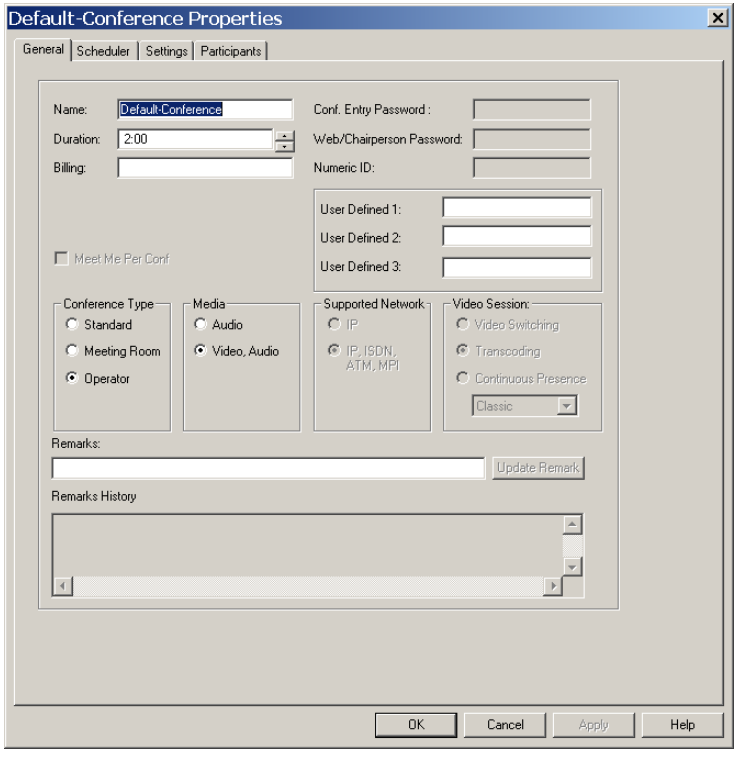
Defining an Operator Reservation Template

To define an operator Reservation template:

1. Open the *Reservations in Database* window.
2. Expand the Template Groups tree until you locate the group to which to add the Reservation template.
3. In the Groups Browser area right-click the *Group* icon, and then click **New Res. Operator Template**.



The *Conference Properties – General* dialog box opens.

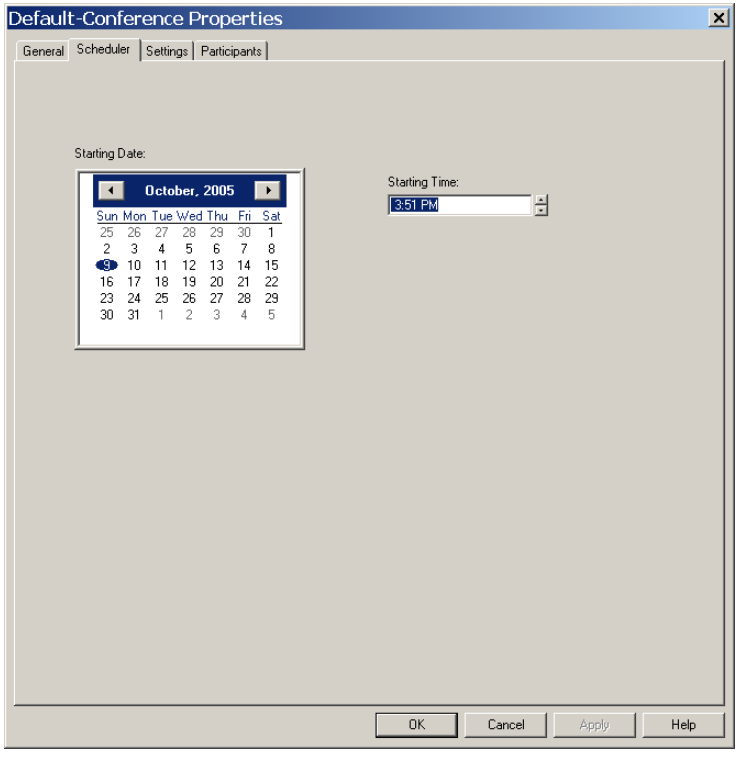


4. Type the conference name. This name is used to identify the template It is recommended to use the operator name as the conference name.

The conference is automatically set to a Transcoding conference, supporting all available network connections. These parameters cannot be modified in an Operator conference. When starting an On Going Operator conference from this template, the template name is automatically replaced with the operator's login name.

5. Define the remaining parameters as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Conference General Parameters"

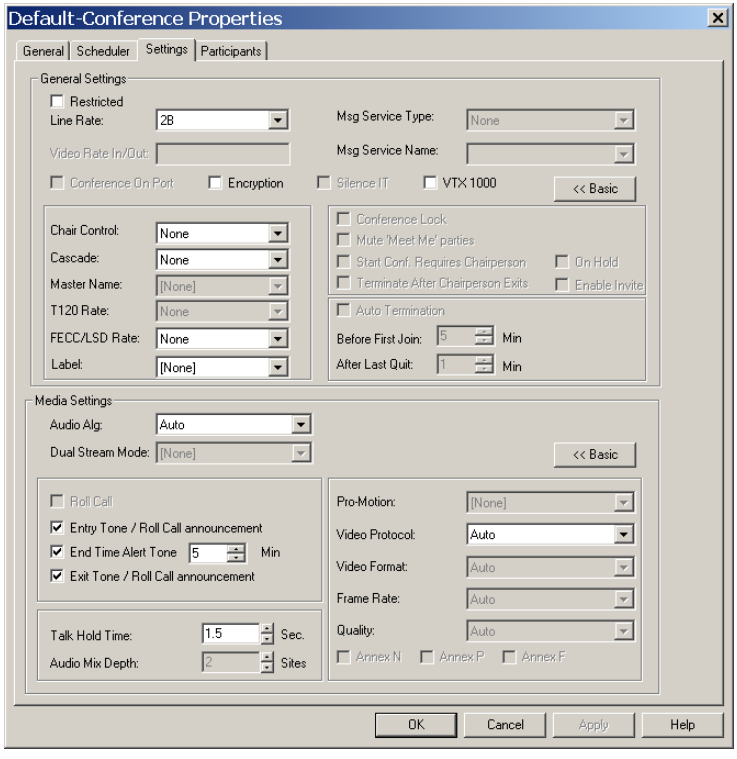
6. Click the **Scheduler** tab.
   The *Conference Properties – Scheduler* dialog box opens.



This tab and dialog box appear only if the *Show Time in DB* Conference template option is enabled in the MGC Manager Defaults function of the MGC Database Manager application.

7. Define the parameters as described in the MGC Manager User's Guide, Volume I, Chapter 9, "Defining a New Reservation"

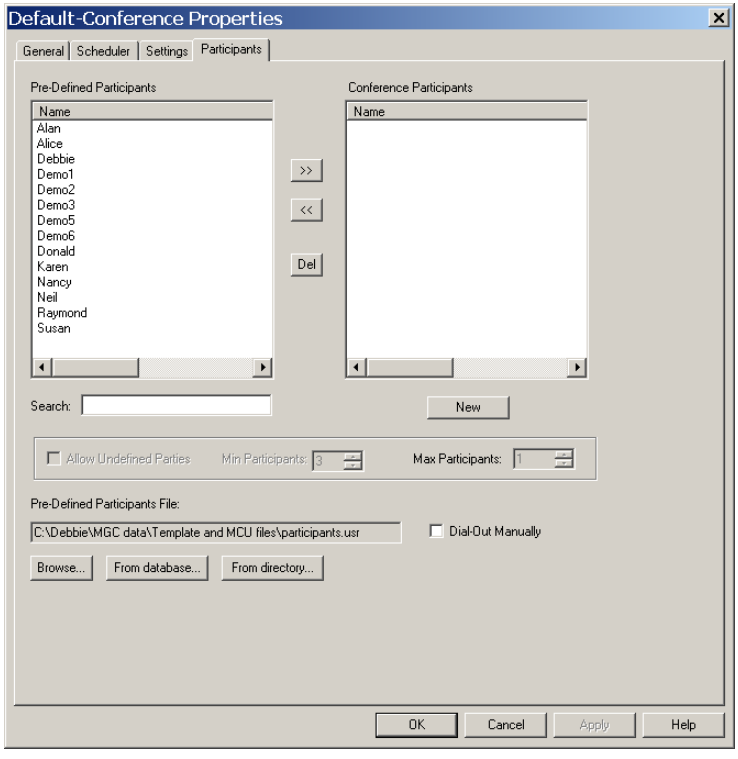
8. Click the **Settings** tab.
   The *Conference Properties – Settings* dialog box opens.



In an Operator conference, the *T120 Rate*, *Msg Service Type*, *Msg Service Name*, *Video Format* and *Frame Rate* are disabled, as they are irrelevant to an Operator conference.

9. Define the parameters as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Conference Settings".

10. Click the **Participants** tab.
The *Conference Properties – Participants* dialog box opens.

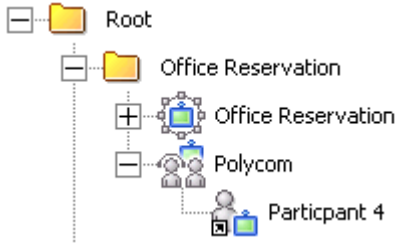


In an Operator Conference only one participant is defined - the operator. The operator adds the second participant interactively during an Attended or Welcome conference.

Define the operator as a new participant, or if already defined in a Participant Template file or in the Participant database, add the operator to the conference as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

If the Operator conference template is defined in the Reservation template file, you can only select a participant from a Participant Template file. If the Operator is defined in the database, you can only select a participant from the Participant database.

11. The conference can be set to *Dial Out Manually* (when checked). This means that the operator will have to manually connect to the conference to run it.
12. Click **OK**.
    The name of the new Operator Reservation template accompanied by an icon is added to the Template Group.



13. Select **Save Database** from the *Database* menu. Alternatively, click the **Save** button on the toolbar to save the new Operator template.

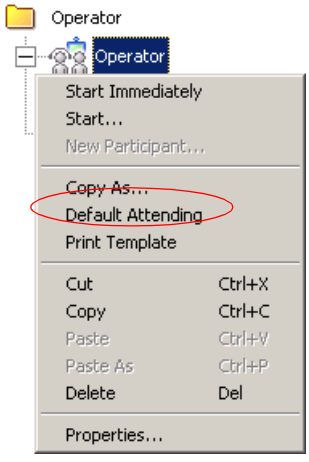
Setting an Operator Reservation Template as the Default Attending Operator Conference

You can define an Operator Reservation template as the default Operator Reservation template. Once the template is saved to the database, the default Operator Reservation template can be launched directly from the Participants Queue pop-up menu, enabling fast access to the participants waiting in the Welcome queue. Only one Operator Reservation template can be set as the default.

To set an operator conference template as the default Attending Operator Conference:

1. Expand the Template Groups hierarchy by clicking the plus [+] icon next to each Template Group until you locate the Template Group storing the Operator Reservation template.

2. Right-click the *Operator Reservation template* icon to be defined as default and then click **Default Attending**.



The next time you access the right-click pop-up menu, a check mark appears next to the function to indicate that the selected Operator Reservation template is set as default.

The selection of an Operator Reservation template as default automatically cancels the existing default setting.

To cancel the selection of an Operator Reservation template as default, either repeat the definition procedure above, or select another Operator Reservation template as default.

Participant Templates

Participants can be added to Reservations or On Going Conferences using one of the following techniques:

- Define a participant directly during the reservation definition without saving the participant information to the database. This participant will be "Embedded" in the conference and is unique to the reservation. The participant parameters are erased together with the conference when the On Going Conference terminates.
- Assign a Participant template defined either in the database or in a Participant Template file. This participant will be "Linked" to the conference, and the participant's definition will be consistent in all conferences to which it is linked.

Defining Participant Templates in the Database

Participant templates can be added to a database using the following methods:

- Define the Participant template directly from the *Participants in Database* window.
- Copy the participant parameters from an On Going Conference or a Reservation to the Participant database.
- Define the participants during conference setup (during an On Going Conference or reservation setup) and save the new participants to the database.
- Convert existing templates from Participant Template files to the database format. For more details, see Chapter 8, "Converting Participant Templates into the Participant Database" on page 8-21.

Adding Participants to a Reservation Template

There are two ways to add participants to a Reservation template:

- Define the participant directly during the reservation definition (the participant can be Embedded "in reservation" or Linked, depending on the selected mode).
- Assign a Participant template to the reservation (participant "linked").

The Reservation template can include linked or embedded participants.

When adding a “linked” participant, a pointer to the Participant template is added to the reservation without copying its data to the reservation. When modifying the properties of a “linked” participant in one reservation or in a template, its properties are also modified in all the reservations to which the participant is linked and in the Participant template (if changes are made in the reservation).

Participants, who are embedded in a reservation, do not appear as an entry in the Participant database list and cannot be viewed in the Participants window of the database. They can only be viewed as part of the reservation in the Reservations window of the database. These participants can be copied from one reservation to another. The participants retain their embedded characteristics and are considered as unique participant definitions. When you modify the properties of embedded participants, this affects only those participants and not participant occurrences in other reservations.

Adding a Linked Participant

Adding a linked participant to a Reservation template can be performed by using one of the following methods:

- Drag and drop the *Participant* icon from the *Participant in Database* window onto the *Reservation* icon in the Reservations in database window.
- Select the Participant templates from the database during the definition of the Reservation template in the database in the *Conference Properties - Participant* dialog box.
- Copy a linked participant from another Reservation template, On Going Conference or reservation to a Reservation template.

When adding a participant from database X to a Reservation template defined in database Y, the participant will be embedded and not linked.

Adding an Embedded Participant

To add an embedded participant to the Reservation template, use one of the following methods:

- Define the new participant during the Reservation template definition (selecting **New** in the *Conference Properties - Participant dialog box*) without saving the participant properties to the database.

- Add a participant to the Reservation template from a Participant Template file in the *Conference Properties - Participant* dialog box.
- Copy an embedded participant from one Reservation template to another (in the database Reservations window) or from one Reservation to another.
- Drag and drop a *Participant template* icon from a Participant Template file onto the *Reservation template* icon in the Reservations in database window.

Defining Participants in the Database

Participants can be defined during the conference definition and added to the database, or they can be added directly to the database.

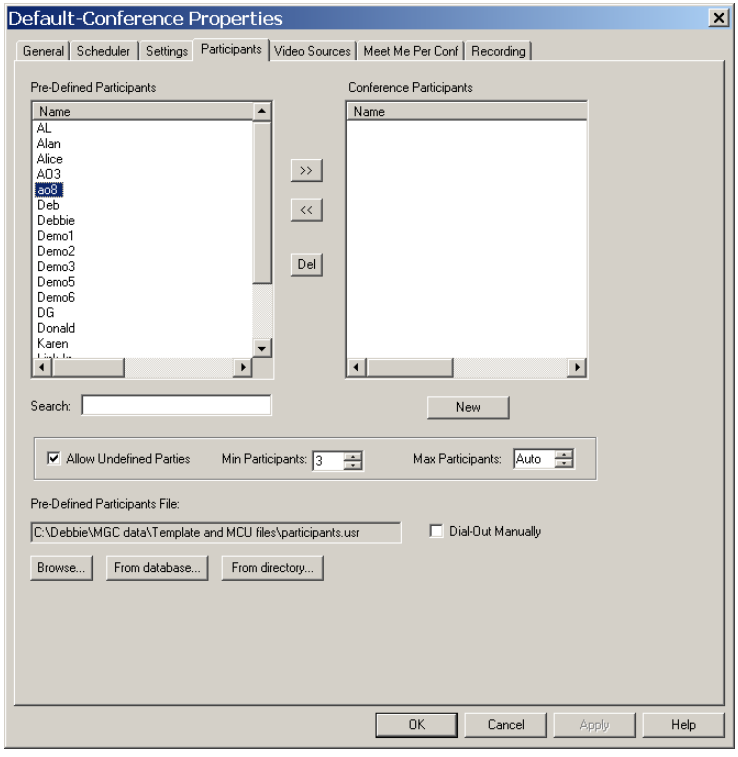
Defining a New Participant during the Reservation Template Definition

To define a new participant during the Reservation template definition:

This procedure can be performed when defining a Reservation template in the database or when defining an On Going Conference or conference Reservation directly.

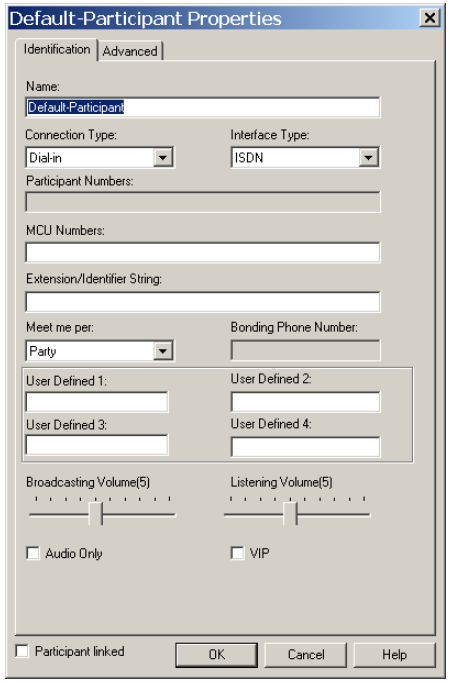
1. In the *Reservations in Database* window, expand the Groups tree until the desired group is located. Right-click the Group to which to add a new Reservation template, and then click **New Res Template** on the pop-up menu.
   The *Conference Properties* dialog box opens.
2. Click the **Participant** tab.

The *Conference Properties - Participants* dialog box opens.



3. To define a new participant, click the **New** button.

The *Participant Properties - Identification* dialog box opens.



4. Define the participant *Name*.
5. Select the network *Interface Type* that will be used by the participants. If you select **H323** or **SIP** as the *Interface Type*, the *Identification* and *Advanced* fields change.

   The *Identification* tab fields for **ISDN**, **ATM**, **MPI**, **H.323** and **SIP** *Interface Types* are described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

   The *Identification* tab fields for **T1-CAS** *Interface Type* are described in the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining Participant Properties".

   When defining a new participant during the definition of an Audio Only Conference or Reservation, participant properties relevant to audio participants are displayed. For more information, see the MGC User's Guide, VoicePlus Edition, Chapter 2, "Defining Participant Properties".

6. Check the **Participant Linked** check box to add the participant to the database. If you clear the Participant Linked check box, the participant will be embedded, which means that he/she will only be added to the conference, and not to the database.

   If you have *Labels* defined in the database and you want to use them for filtering the Participant templates, assign a *Label* to the template. In the *Label* list, select the appropriate label.

7. Click the **Advanced** tab to define additional parameters. This step is optional as the default settings can apply to most participants and will not require changing.

8. Define the various *Advanced* parameters. These parameters change according to the Interface Type selected in the Identification dialog box. The Advanced fields for **ISDN**, **ATM**, **MPI**, **H.323** and **SIP** are described in the User Guide Volume I, Chapter 4, "Defining Participant Properties".The Advanced fields for **T1-CAS** are described in the MGC Manager User's Guide VoicePlus Edition, Chapter 2, "Defining Participant Properties".

9. Click **OK** to add the Participant template to the *Conference Participants* list of the Reservation template.

You can define the *Identification* and *Advanced* properties for both ISDN/ATM and H.323 of the same participant (if the endpoint supports both interface types). First, select the appropriate *Interface Type*, then define the *Identification* and *Advanced* fields and click **OK**. Open the *Participant Properties - Identification* dialog box again and select another *Interface Type*. Then define the *Identification* and *Advanced* fields. Both definitions will be stored in the system's memory.

10. Repeat steps 3 to 9 to define additional Participant templates.

11. Continue the definition of the conference properties.

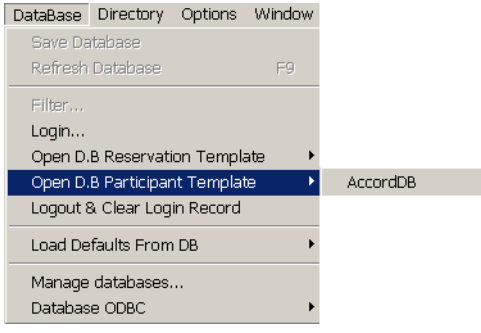
12. Save the Reservation and Participant databases by clicking **Save Database** from the *Database* menu, or click the **Save** button on the toolbar.

13. On the *Database* menu, click **Refresh Database** to update the *Participants in Database* window and view the Participant templates you have added during the Reservation template definition.

Defining a New Participant Template Directly in the Database

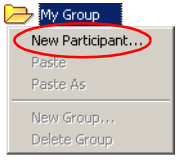
To define a new Participant template directly in the database:

1. Log in to the database. For a detailed procedure, refer to "Logging into the User Tables of the Database" on page 7-3.
2. On the *Database* menu, select **Open D.B. Participant Template** and then select the database you want to work with. (The system lists all databases you are entitled to work with according to your database *Login Name* and *Password*.)



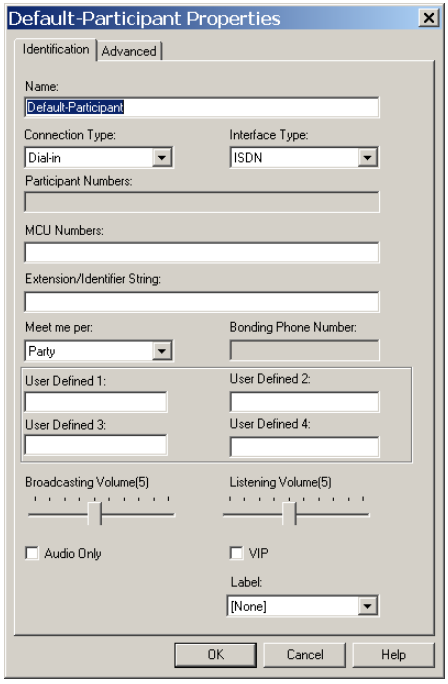
   The *Participants in Database* window opens.
3. Expand the Template Groups tree and select the group to which to assign the Participant template.
4. Right-click the *Group* icon to which to assign the Participant template.

   A pop-up menu appears.



5. Click **New Participant**.

The *Participant Properties - Identification* dialog box opens.

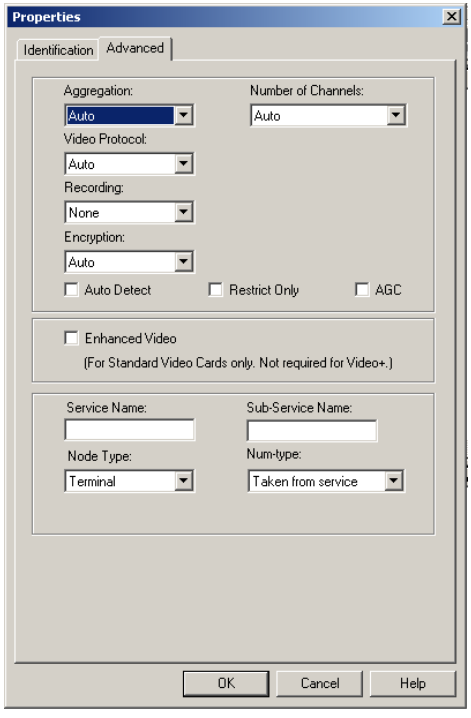


6. Define the participant *Name*.
7. Select the network *Interface Type* that will be used by the participant. If you select **H323** or **SIP as** the *Interface Type*, the *Identification* and *Advanced* fields change.

   The *Identification* tab fields for **ISDN**, **ATM**, **MPI**, **H.323** and **SIP** *Interface Types* are described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

   The *Identification* tab fields for the **T1-CAS** *Interface Type* are described in the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining Participant Properties".
8. Click the **Advanced** tab to define additional parameters. This step is optional as the default settings can apply to most participants and will not require changing.

The Participant Properties - Advanced dialog box opens.

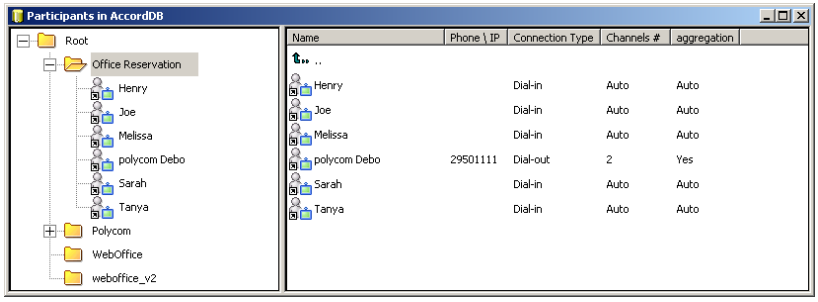


9. Define the *Advanced* parameters. These parameters change according to the network *Interface Type* selected in the *Identification* dialog box.
10. Click **OK** to add the Participant template to the database window.

You can define the *Identification* and *Advanced* properties for both ISDN/ATM and H.323 network of the same participant (if the endpoint supports both interface types). First, select the appropriate *Interface Type*, then define the *Identification* and *Advanced* fields and then click **OK**. Open the *Participant Properties - Identification* dialog box again and select another *Interface Type*. Then define the *Identification* and *Advanced* fields. Both definitions will be stored in the system's memory.

11. Repeat steps 5 to 10 to define additional participants.
12. Select **Save Database** from the *Database* menu or click the **Save** button on the Toolbar to save the changes to the database.

The new Participant template is added to the selected Template Group in the Participant database.

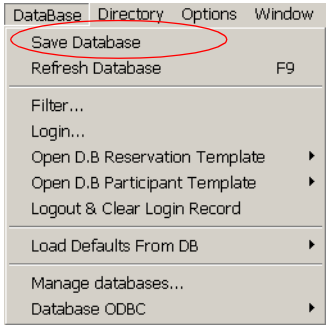


Saving the Database

This option is used to save the changes made to the database tables. Select this option before exiting the database or before refreshing it to prevent losing changes.

To save changes to the database:

- On the *Database* menu, click **Save Database**.



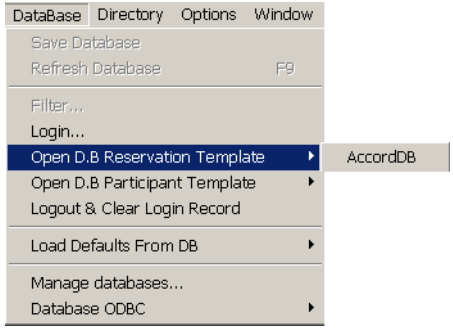
Alternatively, click the **Save** button on the toolbar.

Opening Additional User Tables

You can open the Participant and Reservation User Tables and display them concurrently. Once you have opened one User Table using the logging-in process, you can then open the other without having to perform the login again. This only applies if you have access rights to both databases.

To open additional User Tables:

1. On the *Database* menu select **Open D.B. Reservation Template** or **Open D.B. Participant Template**, and then select the database you want to work with. (The system lists all databases you are entitled to work with according to your database *Login Name* and *Password*.)



   The window of the selected database opens.

2. If the list of Reservation or Participant templates is very long, you can filter the list of templates. For instructions see steps 6 to step 8 on page page 7-6.

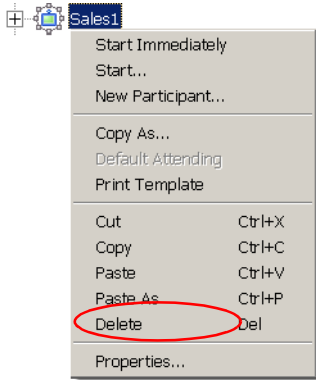
Deleting a Reservation Template from the Database

If you no longer need a Reservation template, you can remove it from the database to keep the database smaller.

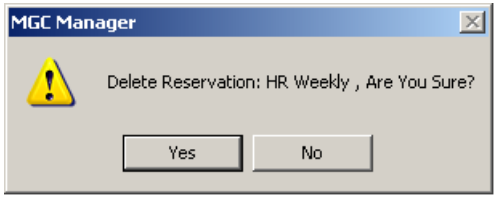
To delete a Reservation template:

1. Log in to the database, and open the *Reservations in Database* window.
2. Expand the Template Groups tree by clicking the plus [+] icon next to the *Group* icons. Continue this process until you locate the Template Group in which the Reservation template is stored.

3. Double-click the *Group* icon in which the Reservation template is stored, or click the plus [+] icon alongside it to expand the list of Reservation templates within that Template Group.
4. Right-click the icon of the Reservation template to delete, and then click **Delete**, or press the <Del> key.



A message appears prompting you to confirm the deletion.



5. Click **Yes** to confirm the deletion or **No** to Cancel the deletion.

   If you have selected *Yes*, the Reservation template is removed from the *Reservations in Database* list.

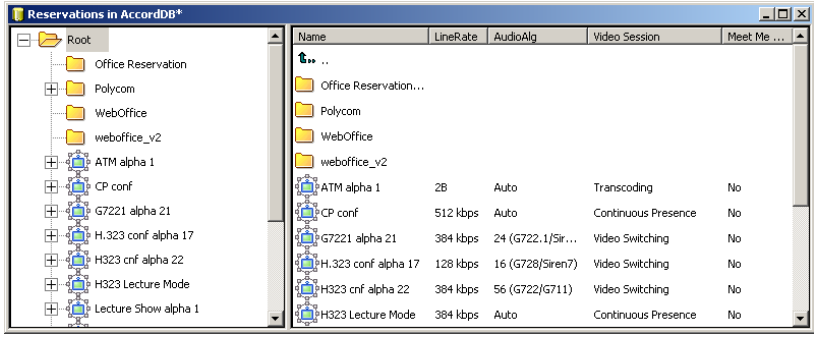
Adding a Template Group to the Database

If you have the appropriate permission, you can add groups to the Groups tree in the database directly from the Participants or Reservations template windows. This operation is useful when you want to add the a group without accessing the Database Manager - Groups option.

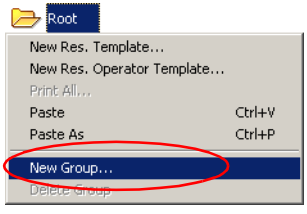
To add a Template Group to the Reservation or Participant database:

1. Open the Reservation or Participant database.

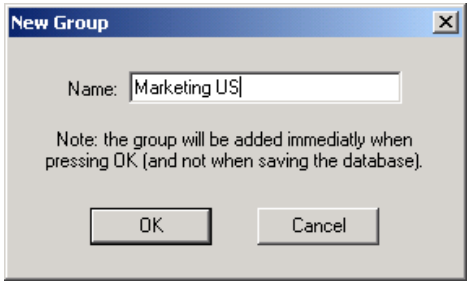
The *Reservations or Participants in Database* window opens.



2. Right-click the *Group* icon to which you want to add a sub-group, and then click **New Group** on the pop-up menu.



The *New Group* dialog box opens.


New Group
Name: Marketing US
Note: the group will be added immediatly when pressing OK (and not when saving the database).
OK
Cancel

3. Type the group name, and then click **OK**.

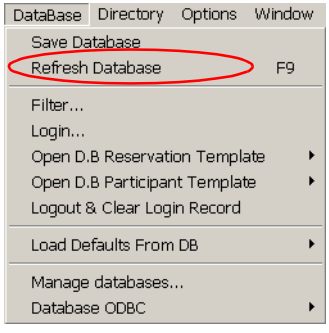
   The new Template Group is added to the Groups tree, under the selected group.

Refreshing the Database

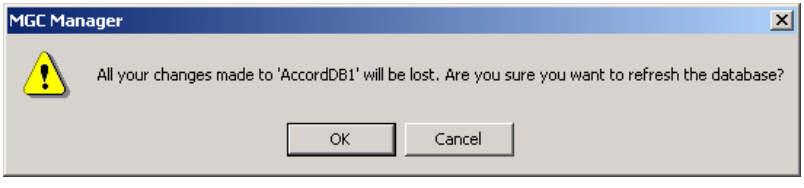
When the database is installed on a server and is used by several users, or when the Database User Table is open for a long time, it is recommended to refresh the database to update the current view. It is recommended to save the database before refreshing the database.

To refresh the database view:

1. On the *Database* menu, click **Refresh Database**.



If the currently opened database window contains items that were not saved to the database, a warning message will be displayed, indicating that these items will be lost.



2. Click **OK** to refresh the database (unsaved items will be lost) or **Cancel** to abort the operation.

Closing the Database Tables

This option is used to close database tables. Be sure to save changes before exiting the database.

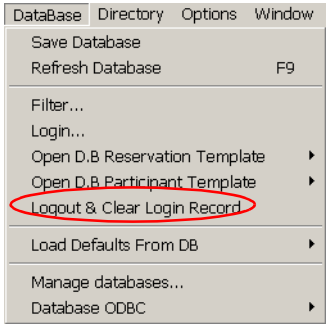
To close the Reservations or Participants in Database window:

1. At the top right corner of the *Participants* or *Reservations in Database* window, click the *Close* button.
   If you have not saved changes made to the database before closing the window, the following message box is displayed.

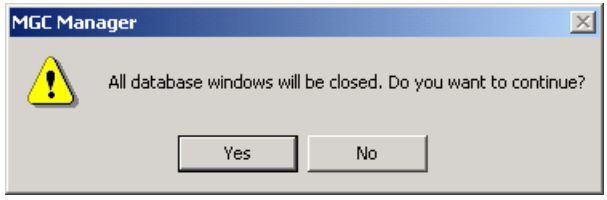
2. Click **Yes** to save changes, **No** to discard the changes, or **Cancel** to abort the operation.

To close all Reservations or Participants in Database windows:

1. On the *Database* menu, click **Logout & Clear Login Record**.



The following message is displayed:



2. Click **Yes** to close all the windows, or **No** to cancel the logout operation.

   If you clicked *Yes*, and you have not saved the changes to the database before logging out, the following message box is displayed:

3. Click **Yes** to save changes, **No** to discard the changes, or **Cancel** to abort the operation.

8

Templates Handling

MGC Reservation and Participant templates can be created in the database or in Template files. Reservation Template and Participant Template files are MGC internal proprietary tools used to organize data. The data in these files cannot be easily exchanged between external databases and the MGC Manager template files. Microsoft Access or SQL databases can be used to organize the conference and participant data so that the MGC Manager users can easily share data with external applications.

Participant Template files were referred to as User Template files in previous versions.

MGC Templates

The Reservation Template file is a shell containing the various Reservation templates. Usually Reservation templates that have common characteristics are grouped together in the same Reservation Template file. Some examples of common characteristics might be that all Reservation templates in the Reservation Templates file relate to the same company, or that all the conferences are dial-out.

The Participant Template file is a shell containing the various participants. Usually participants who have a common characteristics are grouped together in the same Participant Template file. For example, all the participants that belong to a certain company. You can create as many Participant Template files as needed.

Reservation templates (MGC proprietary templates) may be converted into MS Access or SQL database format.

This chapter describes the procedures to create the Reservation Template and Participant Template files (MGC proprietary templates), their conversion to MS Access or SQL database format and various operations that can be performed with templates in general, such as copy, paste, delete and move.

Participant Template Files

Figure 8-1, “Participant Template Files Flow” shows the steps required to create the Participant templates that are stored in a Participant Template file. Before creating a Participant template, you must create a new Participant Template file or open an existing Participant Template file to which the new Participant template is added.

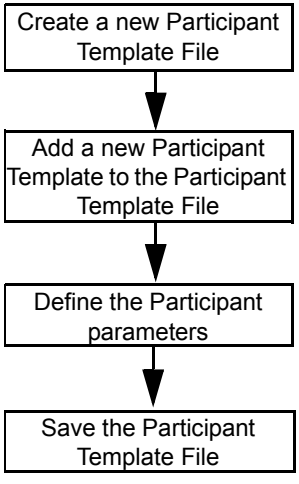

Create a new Participant Template File
Add a new Participant Template to the Participant Template File
Define the Participant parameters
Save the Participant Template File

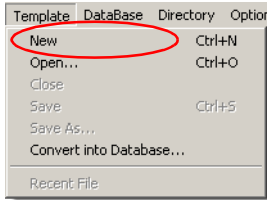
Figure 8-1: Participant Template Files Flow

Creating a New Participant Template File

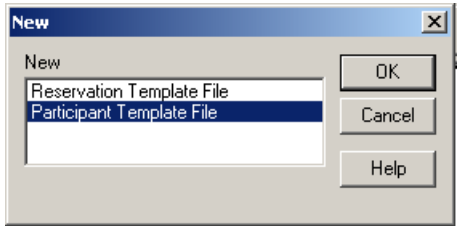
This section describes how to create a new Participant Template file. You can create as many Participant Template files as needed.

To create a new Participant Template file:

1. On the *Template* menu, click **New**.

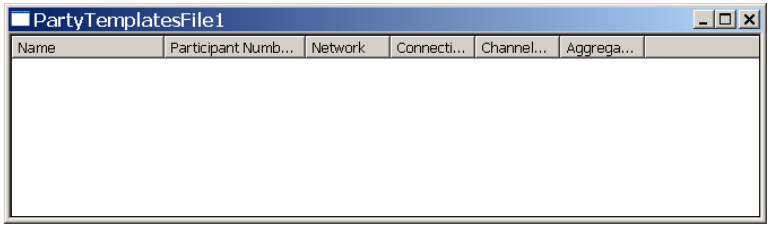


The *New* dialog box opens.



2. Highlight the **Participant Template File** option and then click **OK**.

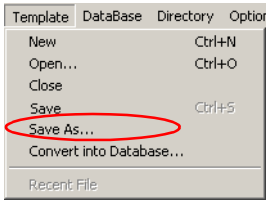
   A new empty window appears on the desktop.



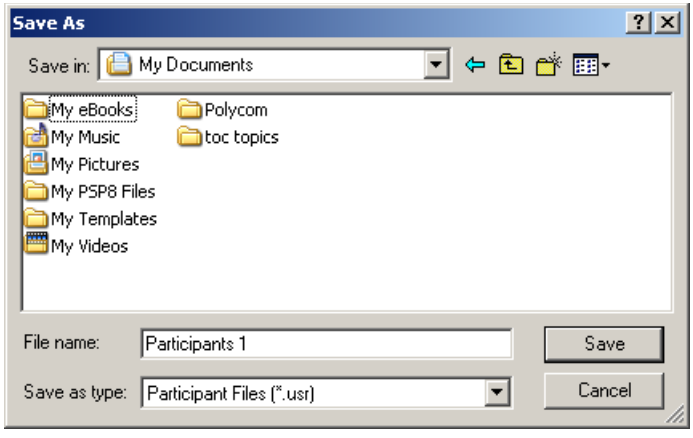
This window lists all the Participant templates that were added to the Participant Template file. Since it is a new Participant Template file, the window is empty.

The title of the window (PartyTemplatesFileX) represents the default file name.

3. On the *Template* menu, click **Save As**.



The *Save As* dialog box opens.



4. Specify a file name and select the folder in which to save the new Participant Template file.

   All Participant Template files are of *Participants Files* type and have a *.usr extension.

5. Click the **Save** button.
   The Participant Template file is saved and the window's title bar displays the name of the Participant Template file.

At this point, you can add Participant templates to the Participant Template file.

Adding Participants to a Participant Template File

Participant templates can be added to a Participant Template file using the following methods:

- Defining the participant parameters directly in the *Participants Template file* window.

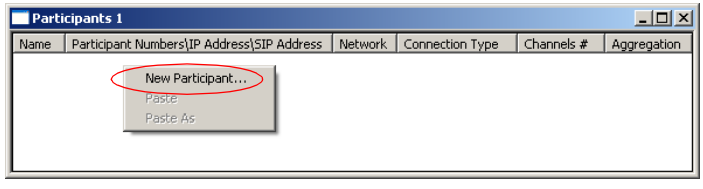
- Defining the participant during conference setup (such as an On Going Conference or a Reservation) and saving the new participants to an existing Participant Template file.
- Defining the participants during the creation of a Reservation template and saving the new participants to an existing Participant Template file.
- Copying the participant parameters from an On Going Conference or a Reservation to the Participant Template file.

Defining a Participant Directly

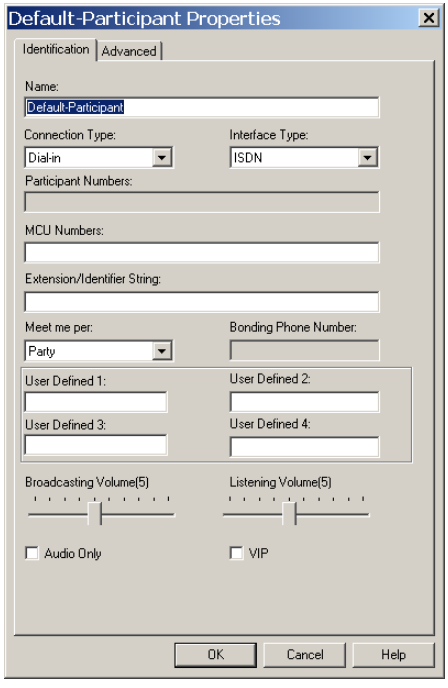
The MGC Manager application does not need to be connected to an MCU when you add the participant to the Participant Template file.

To define a new Participant Template:

1. Open a Participant Template file. This is where the new Participant template will be stored. To open an existing Participant Template file, refer to "Opening a Participant Template File" on page 8-7.
2. Right-click in the Participant Template file window. Do not right-click on a Participant template icon, as this displays a different menu.
3. Click **New Participant**.



The *Participant Properties* dialog box opens.

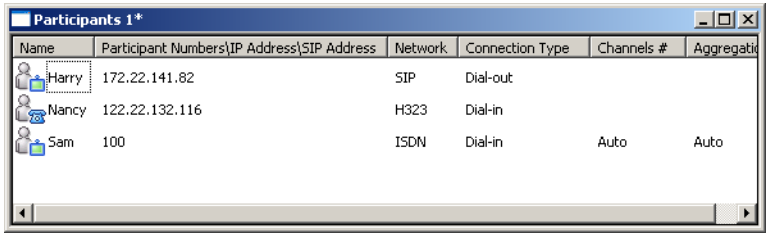


4. Fill in the parameters in the *Participant Properties Identification* and *Advanced* tabs as described in the MGC Manager User's Guide Volume I, Chapter 4, "Defining Participant Properties". For a definition of a participant with the **T1-CAS** Interface Type, see the MGC Manager User's Guide, VoicePlus Edition, Chapter 2, "Defining Participant Properties".

The *Participant Properties Identification* fields differ according to the *Interface Type* selected.

5. Click **OK**.

The *Participant Properties* dialog box closes and the Participant template is added to the Participant Template file.



6. Repeat steps 2 to 5 for each new Participant template you want to add to the Participant Template file.
7. To save the changes to the Participant Template file, on the *Template* menu click **Save**. Alternatively, click the **Save** button on the toolbar.

Table 8-1: Participant Template Icons

Participant Icon	Description
	Participant template - Audio only.
	Participant template - Audio and Video.

Linked participants are only available in the database and will not appear in the MGC Participant Template file and Reservation Template file.

Opening a Participant Template File

To add, modify or delete Participant templates from an existing Participant Template file, the appropriate file must first be opened.

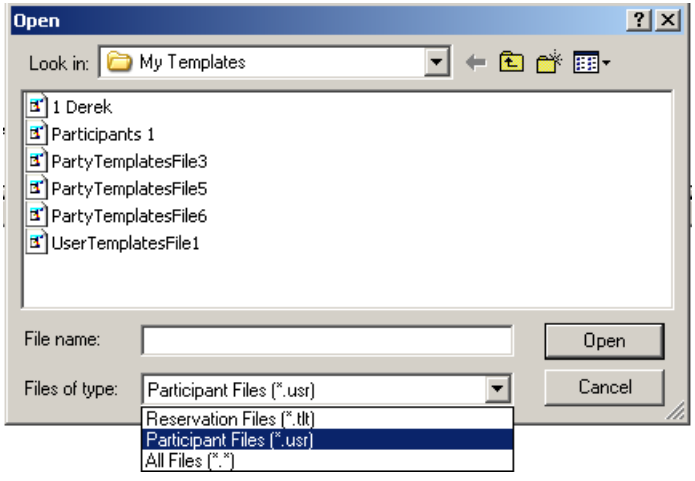
To open a Participant Template file:

1. On the *Template* menu click **Open**, or click the **Open** button on the toolbar.

   The *Open* dialog box is displayed.
2. Use the standard Windows techniques to navigate to the folder containing the Participant Template file.

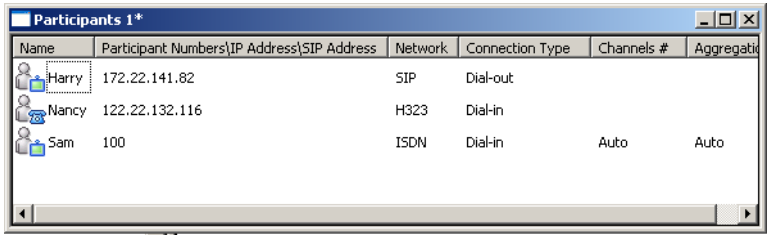
3. Select **Participants Files** from the *Files of Type* drop down list.

   The available Participant Template files are displayed in the *Open* window.



4. Select the required Participant Template file and then click the **Open** button.

   The *Participant Template file* window opens, displaying the list of Participant templates currently defined in the Participant Template file.



Reservation Template Files

Figure 8-2, "Reservation Template File and Reservation Template Creation Flow" shows the steps required to create Reservation templates that are stored in a Reservation Template file.

Before creating a Reservation template, you need to create a new Reservation Template file or open an existing Reservation Template file to which the new Reservation template is to be added. To open an existing Reservation Template file, see "Opening a Reservation Template File" on page 8-16.

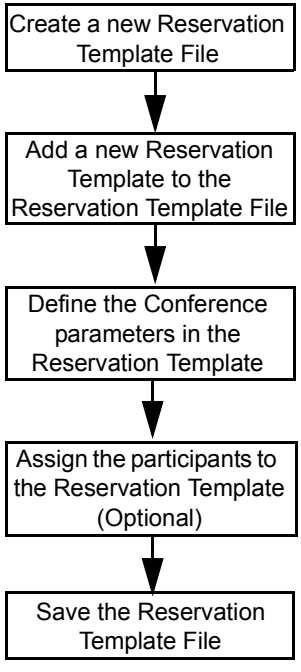

Create a new Reservation Template File
Add a new Reservation Template to the Reservation Template File
Define the Conference parameters in the Reservation Template
Assign the participants to the Reservation Template (Optional)
Save the Reservation Template File

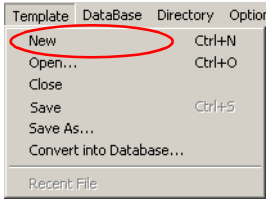
Figure 8-2: Reservation Template File and Reservation Template Creation Flow

Creating a New Reservation Template File

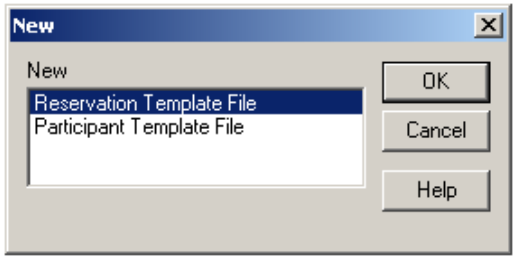
This section describes how to create a new Reservation Template file. You can create as many Reservation Template files as desired.

To create a new Reservation Template file:

1. On the *Template* menu, click **New**.

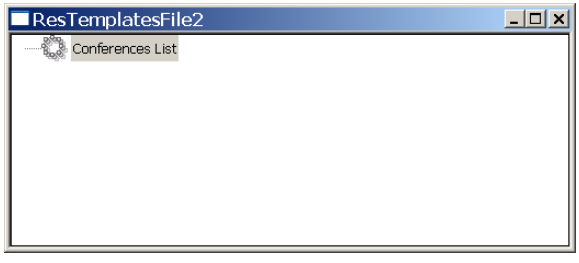


The *New* dialog box opens.

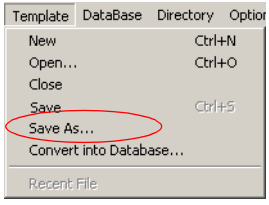


2. Highlight the **Reservation Template File** option and then click **OK**.

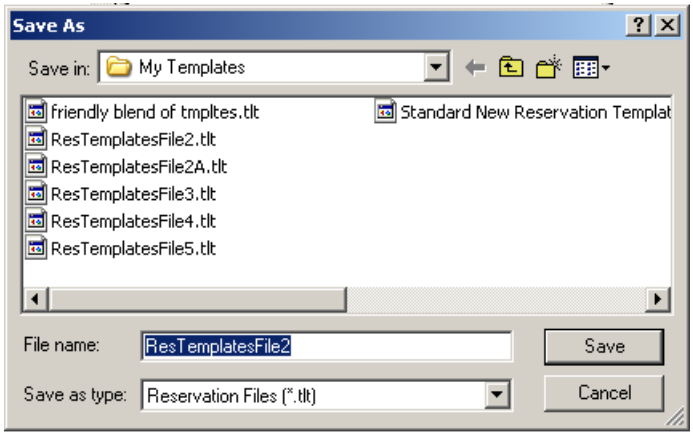
   A new window appears on the desktop. The new *Reservation Template file* window contains one item, named *Conferences List*.



3. Click **Save As** on the *Template* menu.



The *Save As* dialog box appears.



Use the standard Windows techniques to specify the file name and the destination folder where the new Reservation Template file will be stored.

All Reservation template files are of *Reservation File* file type and have the *.tlt extension.

4. Click the **Save** button.
The Reservation Template file is saved in the selected folder.
The window's title bar contains the name of the new Reservation Template file.

Adding a Reservation Template to a Reservation Template File

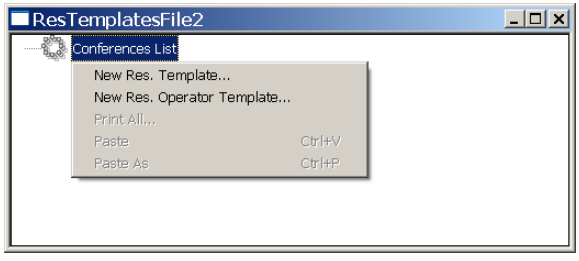
A Reservation template can be added to a Reservation Template file in one of the following ways:

- Creating a new Reservation template directly in the Reservation Template file
- Copying a Reservation template from another Reservation Template file
- Moving a Reservation template from another Reservation Template file

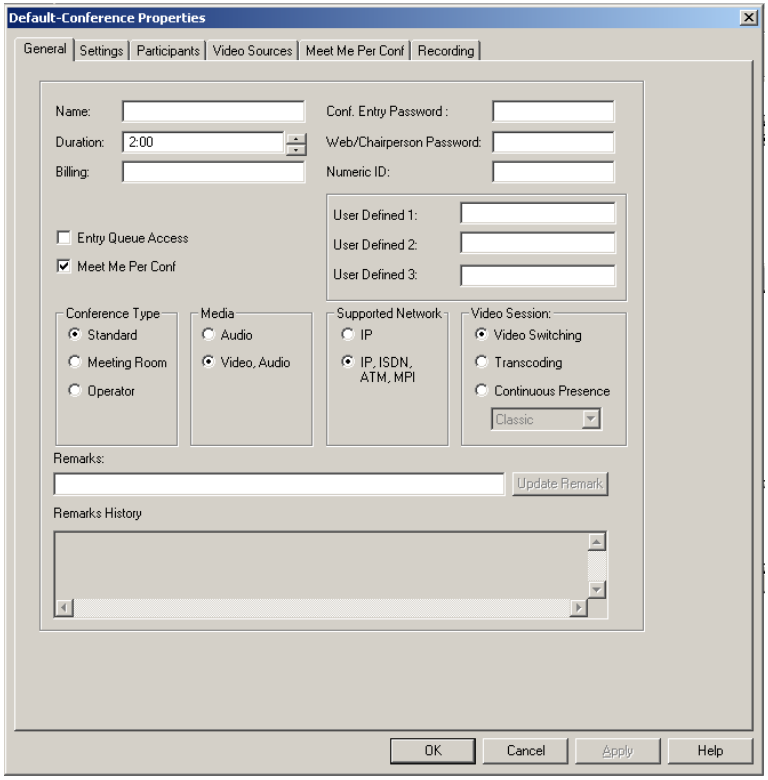
To create a Reservation Template directly in a Reservation Template File:

The MGC Manager does not need to be connected to an MCU when you add a Reservation template to the Reservation Template file.

1. Open the target Reservation Template file. To open an existing Reservation Template file, refer to “Opening a Reservation Template File” on page 8-16.
2. Right-click the *Conferences List* icon in the Reservation Template file window, and then click **New Res. Template**.



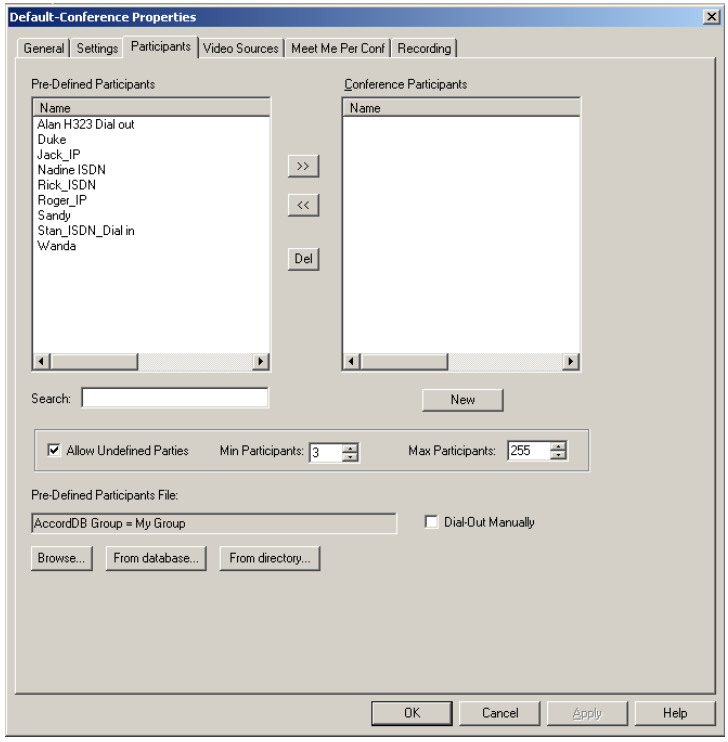
The *Conference Properties - General* dialog box opens.



The *Conference Properties* dialog box does not include the **Scheduler** tab when defining templates in MGC format. When the Reservation template is used to reserve a conference or set an On Going Conference, the *Schedule* dialog box will be enabled.
All the fields show the default values set in the Res Defaults in the Database Manager application.

3. Type the Reservation template name in the *Name* field.
   Define the parameters as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Conference General Parameters".
4. Click the **Settings** tab. The *Settings* dialog box opens. Fill in the *Conference Properties - Settings* parameters as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Conference Settings".

5. Click the **Participants** tab. The *Conference Properties - Participants* dialog box opens.



To define and add a new participant to the Reservation template, click the **New** button. The *Participant Properties - Identification* dialog box opens. Define the participant's parameters as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

You can also add existing participants to the template from a Participant Template file. For details see "To add a participant from a Participant Template file or Participant database using the Conference Properties dialog box:" on page 8-31.

6. If you are defining a Continuous Presence or Lecture Mode Conference, click the **Video Sources** tab. The *Conference Properties - Video Sources* dialog box opens.

7. Select the appropriate Video Layout and if you have assigned participants to the template you can force them to the selected video window. For details see the MGC Manager User's Guide, Volume I, Chapter 4, "Video Sources".

   If you are defining a Lecture Mode conference you can enable Lecture Mode and define Lecture Mode parameters. For details see the MGC Manager User's Guide, Volume I, Chapter 10, "Lecture and Presentation Options".

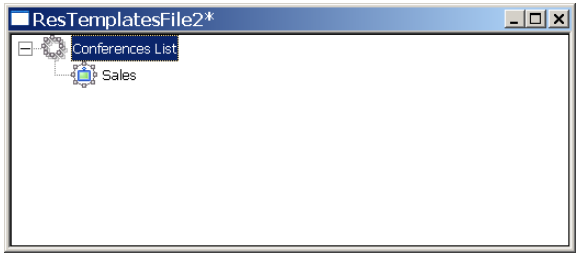
8. If you have checked the Meet Me per Conference option in the *Conference Properties - General* dialog box, click the **Meet Me per Conf** tab. Define the Meet Me per Conference parameters as described in the MGC Manager User's Guide, Volume I, Chapter 7, "Meet Me per Conferences and Meeting Rooms".

The MGC Manager provides a digital recording option with the Polycom Conference Recorder, enabling recording of the conference audio channel of both Audio Only and video conferences. For more information, see the MGC Manager User's Guide, VoicePlus Edition, Chapter 8, "Recording".

9. Click **OK** to complete the Reservation template definition.

   The *Conference Properties* dialog box closes. The new Reservation template is added to the conference list. The Reservation template is added to the *Reservation Template file* window below the *Conferences List* icon. An asterisk appears in the title of the *Reservation Template file* window to indicate that changes have been made.

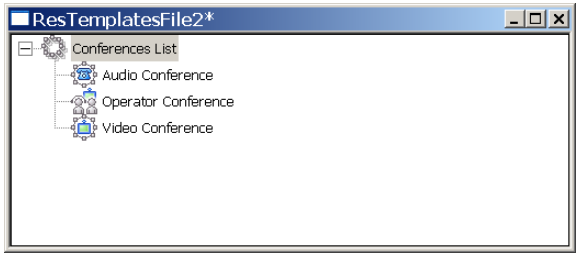
If the list of conferences is not currently displayed, double-click the *Conferences List* icon, or click the plus [+] icon next to the *Conference List* icon to display the list.



10. To save the changes, on the *Template* menu, click **Save**. Alternatively, click the **Save** button on the toolbar.

The asterisk is removed from the title of the *Reservation Template file* window.

In the widow shown below are illustrated the different template types including their icons.



Opening a Reservation Template File

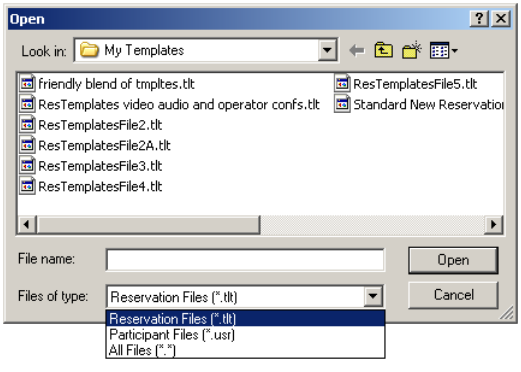
To work with a Reservation template, you need to open the Reservation Template file where the Reservation template is stored.

To open a Reservation Template file:

1. On the *Template* menu, click **Open** or click the **Open** button on the toolbar.

   The *Open* dialog box appears.

2. Select **Reservation File** from the *Files of type* drop down list.



3. Use the standard Windows techniques to select the folder containing the Reservation template file.

4. Use the standard Windows techniques to select the Reservation template file.
5. Click **Open**.
   The *Reservation Template file* window opens.
6. Double-click the *Conferences List* icon or click the plus [+] icon next to the *Conference List* icon.
   The list of Reservation templates defined in the Reservation Template file is displayed.

Converting MGC Templates to Database Templates

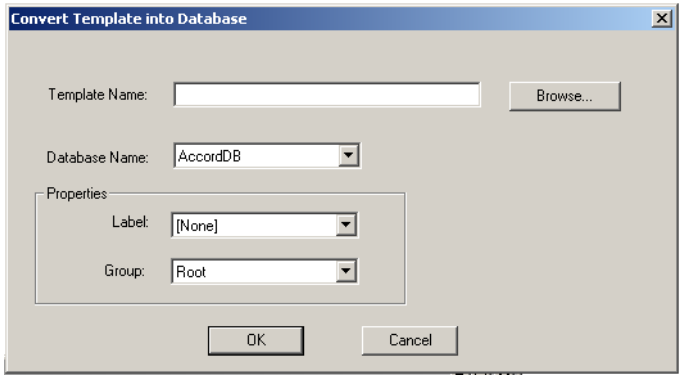
If you are upgrading an existing installation, you may have several Reservation and Participant Template files in your system. Convert these files to the new database structure to be able to share templates with the WebCommander application.

You can convert Participant or Reservation Template files or individual templates to the new database structure.

To convert an existing Template file to the new database format:

1. Log in to the User Tables database.
2. Open the required table (either Participant or Reservation). For more details, see Chapter 7, “Logging into the User Tables of the Database” on page 7-3.
3. Open the appropriate Template file (either Participant or Reservation according to the table opened in step 2).
4. On the *Template* menu, click **Convert Into Database**.

   The *Convert Template into Database* dialog box opens.



5. In the *Template Name* field, enter the name of the Template file (and path if needed) to be converted, or click the **Browse** button to select the Template file.

   If you click the **Browse** button, the *Open* dialog box appears.

By default, the File Type is set *.tlt (Reservation template files). If required, select *.usr to open the list of Participant Template files.

6. Select the Template file to be converted and then click **OK**.

   The selected file appears in the *Template Name* box.

7. The *Database Name* field presents a list of all databases you are entitled to work with according to your database *Login Name* and *Password*. If more than one database is defined in your system, select the appropriate database from the drop-down list. By default, the database to which you are currently connected is selected.

8. In the *Properties – Label* field, select the label that will be assigned to all the templates that will be converted into the database.

9. In the *Properties - Group* field, select the group to which all the templates that will be converted into the database will be assigned. The system lists all the Groups to which you have access rights according to your *Login Name* and *Password*.

10. Click **OK**.

    The Template file is converted to the database. At the end of the conversion process, a confirmation message is displayed.

11. Click **OK** to continue.

    Templates are listed in the appropriate database window. The new templates can be viewed in the appropriate group of the database.

- You must first save the converted templates in the database **before** refreshing the database. Otherwise you will lose all the information
- When converting a Reservation template containing participants, the participants will be *embedded* in the Reservation template, not linked to it.

Converting Individual Reservation Templates into the Reservations Database

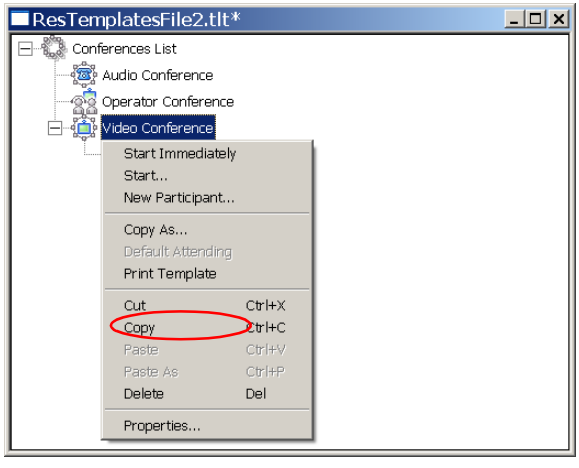
You can copy an individual Reservation template into the Reservation database using the Copy and Paste commands. The Reservation template is copied from the *Reservation Template file* window to the *Reservations in Database* window.

Dragging and dropping is unavailable for Reservation templates.

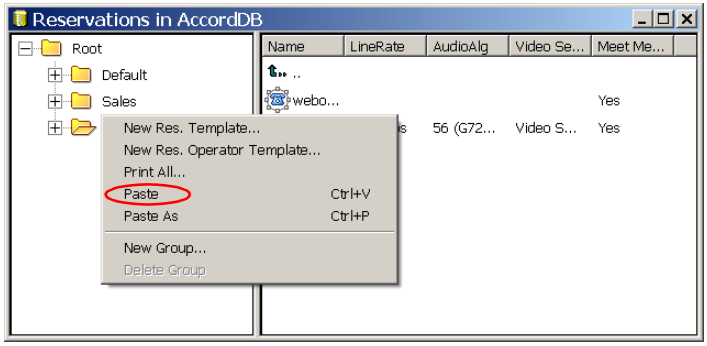
When problems occur during the conversion process, such as converting Reservation or Participant templates whose names already exist in the database, an error message is displayed.

To copy a Reservation template from the Reservation Template file to the *Reservations in Database* window:

1. Open the Reservation Template file from which you want to copy the Reservation template.
2. Log in to the database and open the *Reservations in Database* window.
3. In the *Reservations Template file* window, right-click the icon of the Reservation template to copy, and click **Copy**.



4. In the *Reservations in Database* window, right-click the *Group* to which you want to copy the Reservation template, and then click **Paste**.



The Reservation template is copied to the selected group in the Reservation database. Alternatively use the shortcut keys to perform these operations. The list of shortcut keys can be found in the MGC Manager User's Guide, Volume I, Chapter 3, "Commands Shortcut Keys".

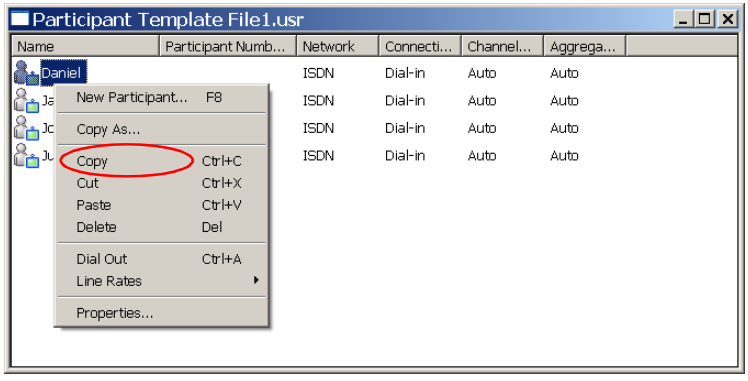
Converting Participant Templates into the Participant Database

Participant templates can be converted into the Participant database by using either of two methods:

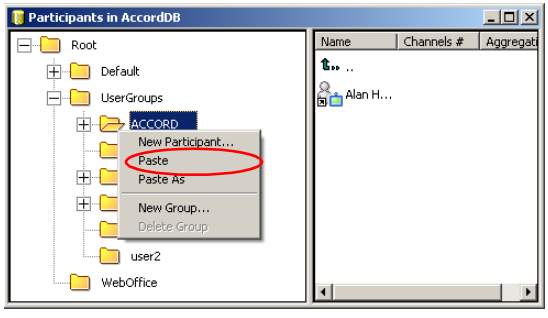
- Copying the Participant from the *Participant Template file* window to the *Participants in Database* window.
- Dragging and dropping the *Participant Template* icon from the *Participant Template file* window to the *Participants in Database* window.

To copy a participant from the Participant Template file to the *Participants in Database* window:

1. Open the Participant Template file from which you want to copy the Participant template.
2. Log in to the database and open the *Participants in Database* window.
3. In the *Participant Template file* window, right-click the icon of the participant to copy, and click **Copy**.



4. In the *Participants in Database* window, right-click the *Group* to which you want to copy the participant, and then click **Paste**.



The participant is copied to the selected group in the Participant database. Alternatively use the shortcut keys to perform these operations. The list of shortcut keys can be found in the MGC Manager User's Guide, Volume I, Chapter 3, "Commands Shortcut Keys".

Dragging and Dropping Participant Templates

With the drag and drop method you must open two template windows.

To copy Participant Template files by the Drag and Drop method:

1. Open the *Participants in Database* window, and the Participant Template file from which you want to copy the Participant template.
2. In the *Participants in Database* window, expand the Group hierarchy to locate the group to which you want to copy the Participant template.

3. In the *Participant Template file* window, click the icon of the Participant template you want to copy, and drag it to the target group in the *Participants in Database* window.

When problems occur during the conversion process, such as converting Reservation or Participant templates whose names already exist in the database, an error message is displayed.

Managing MGC and Database Templates

The following operations may be performed with templates stored in the database or in template files:

- List the participants in a Reservation template
- Add participants to an existing Reservation template
- Copy a participant from a Reservation template to an On Going conference
- Modify a participant's Line Rate
- Modify a participant's Dial-In/Dial-Out definition
- Delete a participant from a Reservation template
- Copy Reservation templates from one file to another, or from one database to another
- Base a Reservation template on another Reservation template
- Move Reservation templates from one file to another or from one database to another
- Copy an On Going Conference or a Reservation to a Reservation Template file, or the Reservation Database
- Modify a Reservation template
- Delete a Reservation template
- Print the Reservation template information
- Add a participant from an On Going conference or a Reservation to a Participant Template file, or to the Participant database
- Modify a participant's definition in a Participant Template file or in the Participant database
- Modify a participant in a Reservation template from linked to embedded, and vice versa
- Delete participants from a Participant Template file

In all the above operations, multi-selection of Participant and/or Reservation templates is available, using the standard Windows techniques.

Listing the Participants in a Reservation Template

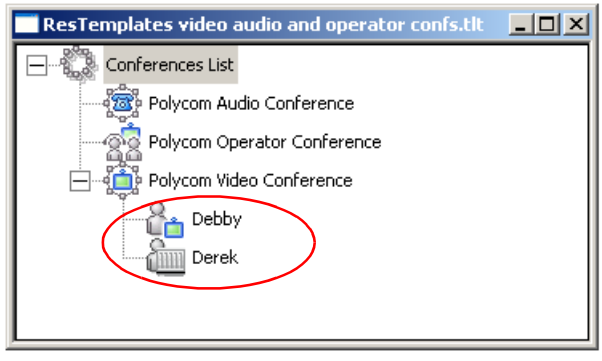
It is possible to view the list of participants assigned to a Reservation template stored in a Reservation Template file or in the Reservation database.

To list the participants in a Reservations Template in a Reservation Template file:

1. Open the Reservation Template file.
2. In the *Reservation Template file* window, double-click the *Conferences List* icon, or click the plus [+] icon next to the *Conferences List* icon.

   A list of Reservation templates appears below the *Conferences List* icon.
3. Double-click the icon of the Reservation template whose participants you want to list or click the plus [+] icon next to the *Reservation Template* icon.

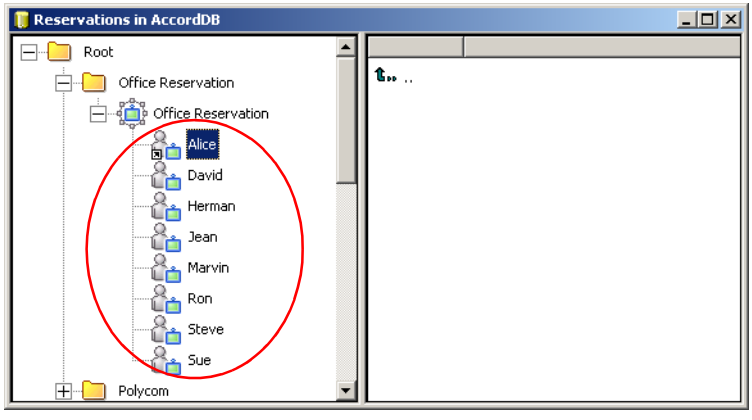
   A list of the participants assigned to the Reservation template appears below its icon. The participants are identified by their names.



To list the participants in a Reservation Template in the Reservation database:

1. Open the Reservation database.
2. In the *Reservations in Database* window, expand the Groups tree until you locate the group in which the desired Reservation template is stored.
3. Expand the *Group* icon where the Reservation template is stored. The list of Reservation templates assigned to the group is displayed.
4. Double-click the icon of the Reservation template whose participants you want to list or click the plus [+] icon next to the *Reservation Template* icon.

   A list of participants is displayed.



Adding Participants to an Existing Reservation Template

Reservation templates can contain two types of participants, linked participants and embedded participants. Linked participants are only applicable to database Reservation templates.

When adding a Linked participant, a pointer to the Participant template is added to the reservation without copying its data into the reservation. When modifying the properties of a Linked participant in one reservation or template, its properties are also modified in all the reservations to which the participant is linked and in the Participant template (if the changes were made in the reservation).

Participants who are embedded in a reservation do not appear as an entry in the Participant database and cannot be viewed in the *Participants in Database* window. They can only be viewed as part of the reservation in the *Reservations* window of the database. These participants can be copied from one reservation to another. However, the participants retain their embedded characteristics and are considered as unique participants. Therefore, when modifying the properties of an embedded participant, only that participant is affected and not all occurrences in other reservations.

The MGC Manager enables you to add participants to an existing Reservation template. There are several methods to add participants to a Reservation template:

- Add a new participant to an existing Reservation template, defining the specific participant parameters. There are two methods, using the Reservation template (right-click) or Reservation properties (Participants tab). When you add a new participant to a Database Reservation template, you can specify whether they are linked or embedded.
- Select the Participants from the Participant database or Participant Template file during the definition of the Reservation template in the *Conference Properties - Participant* dialog box. If you add a participant from a Participant database to a Reservation template in the same database, the participant will be added as a linked participant.
- Copy participants from a Participant Template file or Participant database to a Reservation template. If you copy a participant from a Participant database to a Reservation template in the same database, the participant will be added as a linked participant.

- Copy participants from one Reservation template stored in a Reservation Template file or a Reservation database, to another Reservation template in the same or a different Reservation Template file or Reservation database.If you copy linked participants from a Reservation template in the same database, the participants will be added as linked participants.
- Copy participants from an On Going Conference or a Reservation to a Reservation template.
- Drag and drop a *Participant Template* icon from the *Participants in Database* window on to a *Reservation* icon in the *Reservations in Database* window. The participant will be added as a linked participant.

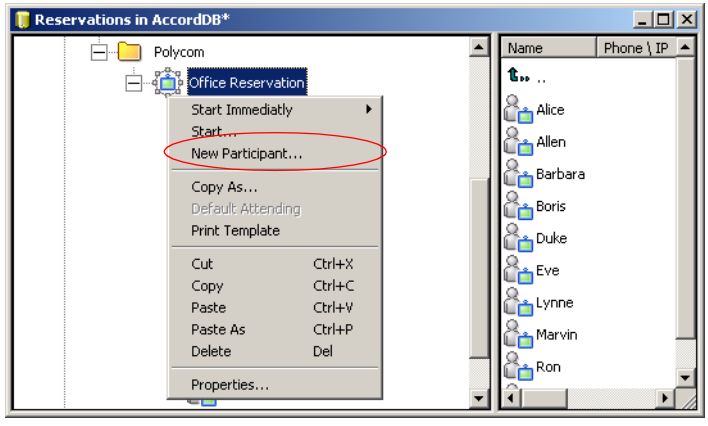
Adding a New Participant to an Existing Conference

You can add a new participant to an existing Reservation template directly. This involves entering all the participant's information.

To add a new participant to an existing Reservation template directly – in the Reservation database:

1. Open the Reservation database.
2. In the *Reservations in Database* window, expand the *Groups* tree to locate the group in which the Reservation template in which you wish to add the participant is stored.
3. Expand the *Group* icon to list the Reservation templates that are assigned to this group.

4. Right-click the icon of the desired Reservation template and then click **New Participant.**



The *Participant Properties* dialog box opens.

5. Define the parameters in the *Participant Properties* dialog box. For more information, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties". You can add either an embedded participant (in which case the participant is not saved separately in the database) or a linked participant (in which case a Participant template is created).

6. When you have completed the participant definition, click **OK**.

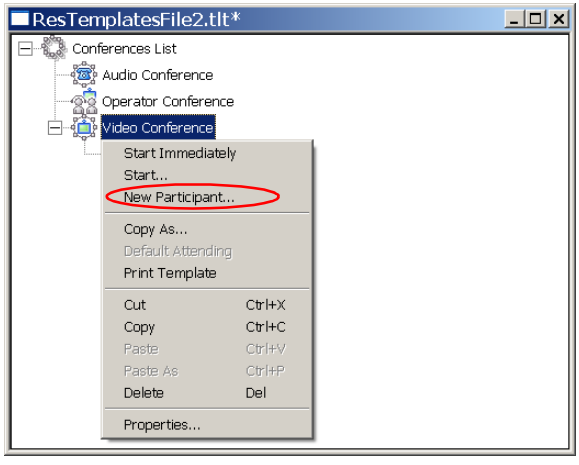
   The *Participant Properties* dialog box closes. The participant is added to the template. An asterisk appears in the title of the window containing the Reservation template to indicate changes have been made.

7. On the *Database* menu, click **Save Database**, or click the **Save** button on the toolbar. The participant is added to the Reservation template. The asterisk is removed from the *Reservations in Database's* window title bar.

If the list of participants is not currently displayed, click the plus [+] next to the conference template name to display the participants.

To add a new participant to an existing Reservation template directly – in the Reservation Template file:

1. Open the Reservation Template file, as described in "Opening a Reservation Template File" on page 8-16.
2. In the *Reservation Template file* window, double-click the *Conferences List* icon, or click the [+] icon next to the *Conference List* icon to expand the list of Reservation templates.
3. Right-click the icon of the desired Reservation template, and then click **New Participant.**



The *Participant Properties* dialog box opens.

4. Define the *Participant Properties* as described in the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".
5. Complete the participant definition and click **OK.**
   The participant is added to the Reservation template. List the participants in the Reservation template to view the new participant.
6. On the *Template* menu, click **Save**, or click the **Save** button on the toolbar.

   The participant is added to the Reservation template. The participant's name appears in the Reservation template's list of participants. The

asterisk is removed from the title bar of the *Reservations Template file* window.

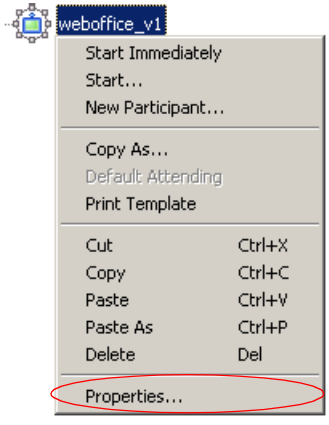
You can also define a new participant from the *Reservations Properties – Participants* dialog box.

Adding a Participant from a Participant Template file or Participant database

You can add a participant defined in a Participant Template file or Participant database to a Reservation template. There are several methods of doing this.

To add a participant from a Participant Template file or Participant database using the Conference Properties dialog box:

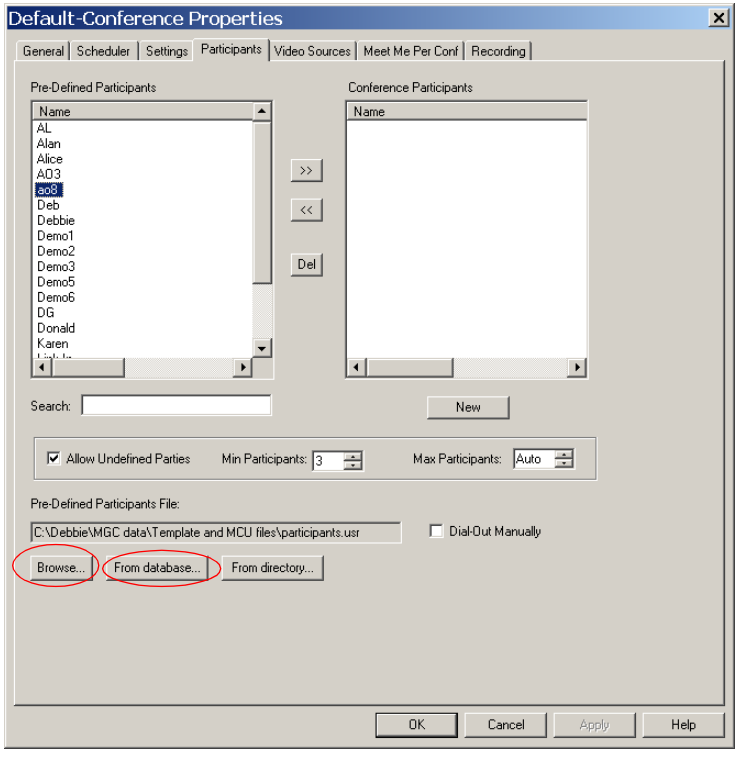
1. Open the *Reservations in Database* window or the *Reservation Template file* window.
2. In the Reservation database, expand the Groups tree until you locate the group in which the Reservation template to which you wish to add a participant is stored. Double-click the *Group* icon to list its Reservation templates. Alternatively, in the *Reservation Template file* window, expand the *Conference List* icon to list the Reservation templates.
3. Right-click the desired *Reservation template* icon, and then click **Properties**.



The *Conference Properties* dialog box appears.

4. Click the **Participants** tab in the *Conference Properties* dialog box.

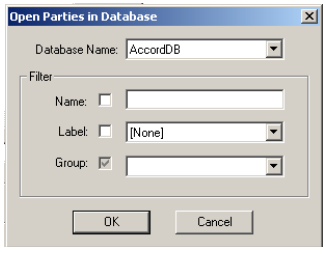
The *Conference Properties - Participants* dialog box appears.



The name of the current Participant Template file or the Participant database is displayed in the *Pre-Defined Participants File* field. The list of participants defined in the Participant Template file or in the current group of the Participant database is displayed in the *Pre-Defined Participants* list.

5. To add a participant from a different database or to select the database when the Participant Template file is active, click the **From Database** button.

The *Open Parties in Database* dialog box opens.



a. If more than one database is configured in your system, select the appropriate database from the *Database Name* list.

b. If required, filter the list of participants by clicking the *Name* and/or *Label* check boxes and then entering the appropriate character string in the *Name* field and/or selecting the appropriate label from the drop-down list.

c. The *Template Group* option is enabled by default, displaying the highest Template group in the Groups hierarchy to which the logged in user has access rights. You can select another group from the Template Groups hierarchy from the drop-down list. Only Template Groups to which you have access rights are listed in the Group drop-down list.

d. Click **OK**.
A list of all the participants in the filtered category is displayed in the *Pre-Defined Participants* list, and the name of the participant's group is displayed in the *Pre- Defined Participants File* field.

6. To add a participant from a different Participant Template file or to select the Participant Template file when the database is active, click the **Browse** button.

   The *Open* dialog box appears. Use the standard Windows techniques to select the desired Participant Template file.

   When a different Participant Template file is selected, its full path and name appear in the *Pre-Defined Participants File* field and the participants defined in the Participant Template file appear in the *Pre-Defined Participants* list.

7. In the P*re-Defined Participants* field, click the name of the Participant you want to add to the Reservation template.

The participant's name is highlighted.

8. Click the **Add** button .

   The selected name appears in the *Conference Participants* list.

9. Repeat steps 7 and 8 for all the participants you want to include from the current *Pre-Defined Participants* list.

   If you want to use participants from other sources of Participant templates, repeat steps 5 to 8 for each Participant Template file and Participant database group.

10. Click **OK**.

    The participant is added to the Reservation template. The participant's name appears in the Reservation template's list of participants.

Participants that are added from the Participant database to a Reservation template stored in the same database are Linked participants.

An asterisk appears in the title bar of the *Reservation Template file* or the *Reservations in Database* window containing the Reservation template, to indicate that changes have been made.

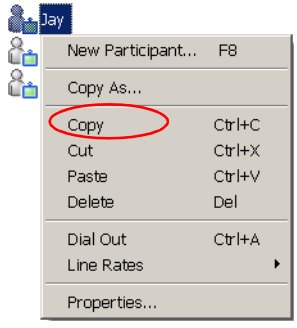
11. On the *Template* menu, click **Save** (when the Reservation template is stored in a Reservation Template file) or on the *Database* menu, click **Save Database** (when the Reservation template is stored in a Reservation database) to save the changes.
    Alternatively, click the **Save** button on the toolbar.

To add a participant from a Participant Template file or Participant database using the clipboard:

1. Open the *Participant Template file* or the *Participants in Database* window.
2. When working with the Participant database, in the *Participants in Database* window, expand the Groups tree to locate the group where the desired Participant template is stored.

   Expand the *Group* icon to list the Participant templates assigned to the group.

3. Right-click the participant icon, and then click **Copy**.



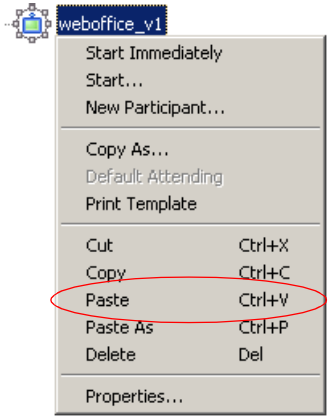
The participant's definition is copied to the clipboard.

Use the **Copy As** option from the right-click pop-up menu to copy the participant parameters to the clipboard, using a new name.

4. If the Reservation Template file or the *Reservations in Database* window containing the Reservation template to which the participant is to be added is not open, open it now.
5. In the *Reservation Template file* window, double-click the *Conferences List* icon or click the plus [+] icon next to the *Conferences List* icon to display the Reservation templates list.

   In the *Reservations in Database* window, expand the *Groups* icon until the desired group is located.

6. Right-click the icon of the Reservation template icon to add the participant and then click **Paste**.



   The participant is added to the Reservation template. The participant icon appears in the Reservation template's participants list.

7. On the *Template* menu, click **Save** (when the Reservation template is stored in a Reservation Template file), or on the *Database* menu, click **Save Database** (when the Reservation template is stored in a database) to save the changes.
   Alternatively, click the **Save** button on the toolbar.

To copy a participant from a Participant database to a Reservation Template in a Reservation database using drag and drop:

1. Open the *Participants in Database* window and the *Reservations in Database* window.
2. In the *Reservation in Database* window, expand the Group hierarchy to locate the Reservation template to which you want to copy the Participant template.
3. In the *Participants in Database* window, expand the Group hierarchy to locate the group from which you want to copy the Participant template.
4. In the *Participants in Database* window, click the icon of the Participant template you want to copy, and drag it to the target Reservation template icon in the *Reservation in Database* window.

   The participant is added to the Reservation template as a linked participant.

Adding Participants from another Reservation Template

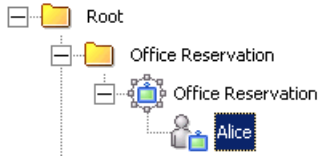
An additional method of adding participants to a Reservation template is to copy the participant information from another Reservation template defined in the same Reservation Template file or Reservation database, or in a different Reservation Template file or Reservation database. The template you are copying from is the source template. The template to which you are copying is the target template.

To copy a participant from a Reservation Template:

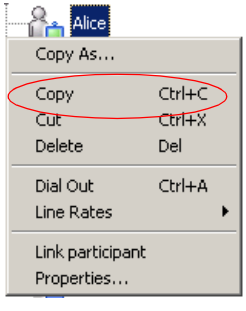
1. Open the Reservation Template file or the Reservation database containing the source Reservation template.
2. In the *Reservation Template file* window, double-click the *Conferences List* icon to list the Reservation templates.

   In the *Reservations in Database* window, expand the *Groups* tree and locate the desired Reservation template.
3. Double-click the icon of the source Reservation template, or click the plus [+] icon next to the source *Reservation template* icon.

   A list of participants defined in the Reservation template is displayed below the Reservation template's icon.



4. Right-click the icon of the participant to copy, and then click **Copy**.

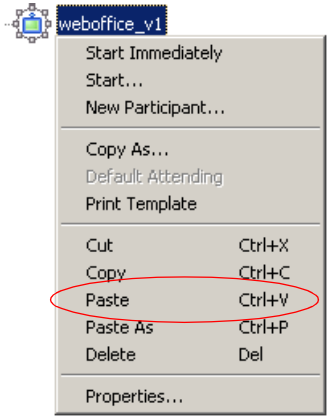


The participant's definition is copied to the clipboard.

Use the **Copy As** option from the right-click menu to copy the participant parameters to the clipboard, using a new name.

5. If the Reservation Template file or Reservation database containing the target Reservation template is not open, open it now.
6. Expand the *Conferences List* icon in the *Reservation Template file* window to list the Reservation templates.

   Alternatively, expand the *Groups* in the Reservation database to locate the target Reservation template.
7. Right-click the icon of the target Reservation template, and then click **Paste.**



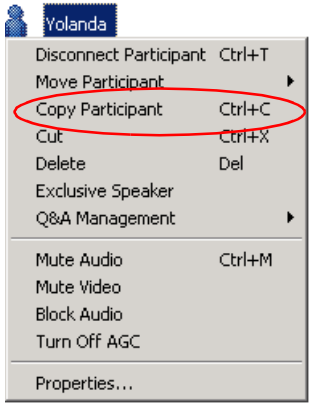
   The participant is added to the target Reservation template. The participant icon is added to the Reservation template's participants list.

   If you copy a linked participant from a Reservation template in the same Reservation database, the participant will be added as a linked participant. In all other cases the participant will be added as an embedded participant.
8. Click **Save** from the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** from the *Database* menu (when the Reservation template is stored in a database) to save the changes.
   Alternatively, click the **Save** button on the toolbar.

Adding a Participant from an On Going Conference or a Reservation to a Reservation Template

An additional method of adding participants to a Reservation template is by copying the participant information from an On Going Conference or a Reservation to the Reservation template.

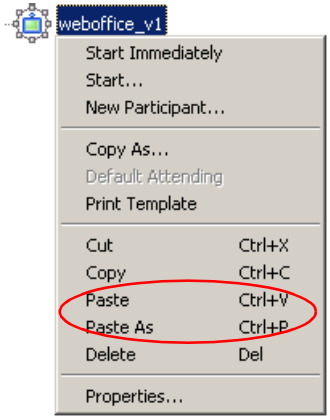
1. In the MGC Manager Main window, in the *Browser* area, expand the *On Going Conferences* or *Reservations* tree to list the On Going Conferences or Reservations.
2. Double-click the *On Going Conference* icon or the *Reservation* icon or click the plus [+] icon next the respective icon to list its assigned participants.
3. Right-click the icon of the participant to copy, and then click **Copy Participant**.



The Participant Properties are copied to the clipboard.

4. Open the Reservation Template file or Reservation database and expand the Reservation templates to locate the template to which you wish to copy the participant.

5. Right-click the icon of the target Reservation template icon and then click **Paste,** or **Paste As** to copy the participant under a different name.



The participant is added to the target Reservation template. The participant icon appears in the Reservation template's participants list.

An asterisk appears in the title bar in the *Reservation Template file* window or the *Reservations in Database* window to indicate that changes have been made.

6. Click **Save** from the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** from the *Database* menu (when the Reservation template is stored in a database) to save the changes.

   Alternatively, click the **Save** button on the toolbar.

   The asterisk is removed from the title of the window containing the Reservation template.

Copying a Participant from a Reservation Template to an On Going Conference

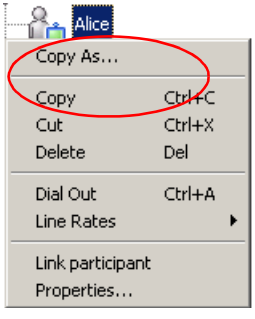
You can add participants to an On Going conference by copying their properties from a Reservation template.

To copy a participant from a Reservation Template:

1. Open the Reservation Template file or Reservation database.
2. In the Reservation Template file, double-click the *Conferences List* icon or click the plus [+] icon next to the *Conferences List* icon to list the Reservation templates.

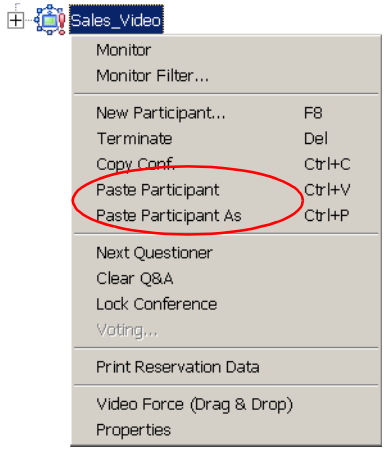
   In the *Reservations in Database* window, expand the *Groups* tree to locate the group containing the source Reservation template.
3. Double-click the *Reservation Template* icon from which the participant is to be copied, or click the plus [+] icon next to the Reservation template.

   A list of participants appears below the Reservations Template.
4. Right-click the icon of the participant you want to copy and then click **Copy** or **Copy As** (to copy the participant under another name).



The participant's information is copied to the clipboard.

5. In the MGC Manager's Main window, right-click the *On Going Conference* icon, and then click **Paste Participant** or **Paste Participant As** to add the participant under a different name.



The participant is added to the conference. The participant icon appears in the participants list in the *Monitor* area of the main window.

6. For dial-out participant connections, if the conference is set to *Dial-out Manually*, you need to connect the new participant.

Modifying the Line Rate Set in the Participant Template

You can modify the line rate defined for an ISDN or ATM Participant template without accessing the *Participant Properties* dialog box. This option is available only for disconnected participants.

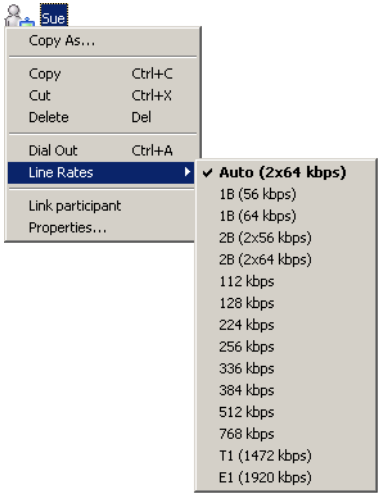
To modify the participant's Line Rate:

1. Open the Reservation or Participant Template file or the Reservation or Participant Database.
2. In the *Reservation Template file* window, double-click the *Conferences List* icon.

   In the *Reservations in Database* window or the *Participants in Database* window, expand the *Groups* icon until you locate the desired group.
3. For a Reservation template, double-click the Reservation template icon or click the plus [+] icon next to the Reservation template.

   A list of participants defined in the Reservation template appears below the Reservation template's icon.
4. Right-click the icon of the participant whose *Line Rate* definition you want to modify, and then click the **Line Rate** option to display the list of available line rates.

The currently selected *Line Rate* appears in bold, and a check mark is displayed next to it.



5. Click on the desired *Line Rate*.
   A check mark appears next to the selected *Line Rate*, which appears in bold.
6. On the *Template* menu, click **Save** (when the Reservation template is stored in a Reservation Template file, or when the Participant template is stored in a Participant Template file).
   Alternatively, click **Save Database** from the *Database* menu (when the Reservation or Participant template is stored in a database) to save the changes.
   Alternatively (for all types), click the **Save** button on the toolbar.

To modify the line rate of a H.323 Participant, you need to access the participant's *Advanced Properties* dialog box.

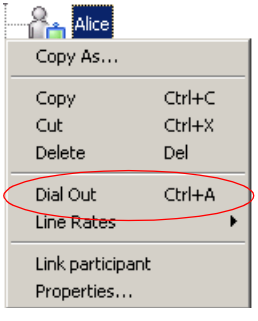
Modifying the Participant Dial-In/Dial-Out Definition

You can toggle between the Dial-In and Dial-Out definition of a participant without accessing the *Participant Properties* dialog box.

To enable the interactive toggling between the participant's Dial-In and Dial-Out Connection Type, the phone numbers for both Dial-In and Dial-Out must be defined during the definition of the participant parameters, in the *Participant Properties - Identification dialog* box. If the *Dial-In phone n*umbers are not defined, when switching to *Dial-In,* the system automatically allocates the appropriate phone numbers from the list of dialed in numbers defined in the *Network Service.*

To modify the participant Dial-In/Dial-Out definition:

1. Open the Reservation or Participant Template file, or the *Reservations* or *Participants in Database* window.
2. Double-click the Reservation template icon or click the plus [+] icon next to the Reservation template.
   A list of participants defined in the Reservation template appears below the Reservation template's icon.
3. Right-click the icon of the participant whose dial-in/dial-out settings you want to modify.
   The system displays the next definition the participant can toggle to: either *Dial-In* or *Dial-Out*, depending on the current definition of the participant. If the participant's current definition is *Dial-Out*, the system displays the *Dial-In* option in the right-click menu.
4. Click the **Dial In** or **Dial Out** option.



The participant definition changes to *Dial-In* or *Dial-Out* accordingly, and the pop-up menu displays the next toggled option.

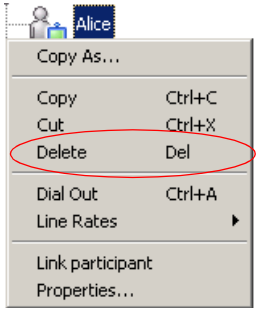
5. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file, or when the Participation template is stored in a Participant Template file).
   Alternatively, click **Save Database** on the *Database* menu (when the Reservation or Participant template is stored in a database) to save the changes.
   Alternatively (for all types) click the **Save** button on the toolbar.

Deleting Participants from a Reservation Template

If a Reservation template contains participants who are no longer needed, delete them to save disk space.

To delete a participant from a Reservation template:

1. Open the Reservation Template file or Reservation database.
2. In the *Reservation Template file* window, expand the *Conferences List* icon to list the Reservation templates.
   In the *Reservations in Database* window, expand the *Groups* tree to locate the group containing the desired Reservation template.
3. Double-click the icon of the Reservation template, whose participant you want to delete.
   A list of participants appears below the Reservation template's icon.
4. Right-click the icon of the participant to be removed, and then click **Delete**.



   The participant is deleted. The participant's icon is removed from the participants list.
5. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** on the

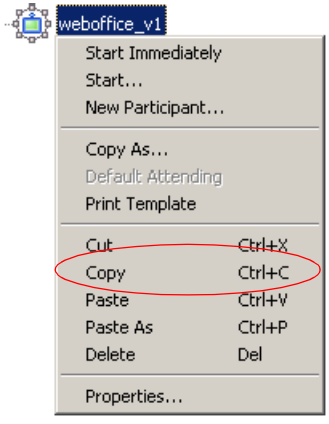
Database menu (when the Reservation template is stored in a database) to save the changes. Alternatively (for all types) click the **Save** button on the toolbar.

Copying Reservation Templates from one File or Database to another

It is possible to copy a Reservation template from one Reservation Template file or Reservation database to another. You do this by using the Copy and Paste functions. The conference Template is copied from the source Reservation Template file or Reservation database and pasted into the target Reservation Template file or Reservation database.

To copy a conference template from one file or database to another:

1. Open the source *Reservation Template file* or *Reservations in Database* window.
2. In the source *Reservation Template file* window, expand the *Conferences List* icon to list the Reservation templates.
   In the source *Reservations in Database* window, expand the *Groups* tree to locate the Reservation template to be copied.
3. Right-click the icon of the Reservation template to copy, and then click **Copy**.



The conference definition is copied to the clipboard.

4. Open the target *Reservation Template file* or *Reservations in Database* window.
5. In the target *Reservations in Database* window, expand the *Groups* tree to locate the group to which the Reservation template is to be copied.
6. In the target window, right-click the *Conferences List/* or *Reservation Group* icon and then click **Paste** or **Paste As** (to change the name of the Reservation template).

The Reservation template is copied from the clipboard to the target *Reservation Template file* window or to the relevant group in the *Reservations in Database* window.
A new Reservation icon is added to the list of Reservations under the *Conferences List or Reservation Group* icon.

7. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation template file) or click **Save Database** on the *Database* menu (when the Reservation template is stored in a database) to save the changes.

   Alternatively (for all types), click the **Save** button on the toolbar.

Basing a Reservation Template on another Reservation Template

When defining a new Reservation template, you can base it on an existing Reservation template that is similar to the one you want to create.

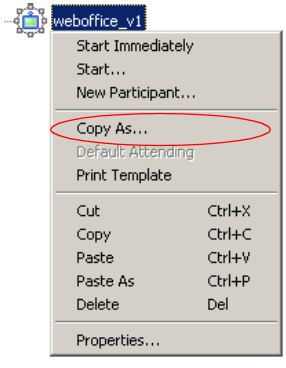
For example, Company X has a general managerial staff meeting every Tuesday and a sales managerial staff meeting every Thursday. All the meetings are via multipoint video conferencing. Moreover, all the participants of the sales managerial staff meeting must attend the general staff meeting.

To make your task easier, you first define a Reservation template for one conference (for example, the sales managerial staff meetings). Next, you copy the Reservation template and make whatever modifications you need to for the second conference (general meetings).

To create a Reservation Template similar to an existing Reservation Template:

1. Open the Reservation Template file or Reservation database.
2. In the *Reservation Template file* window expand the *Conferences List* icon to list the Reservation templates.

   In the *Reservations in Database* window, expand the *Groups* tree to locate the desired Reservation template.
3. Right-click the icon of the Reservation template you want to copy, and then click **Copy As**.



   The *Conference Properties* dialog box opens.
4. Click the **General** tab.

The *Conference Properties - General* dialog box opens.

5. Type the name of the new Reservation template. Make any other changes that are required for the new Reservation template.
6. When all the modifications have been made, click **OK** in the *Conference Properties* dialog box.

   The new Reservation template is added to the list of Reservation templates below the *Conferences List* or *Reservation Group* icon.
7. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** on the *Database* menu (when the Reservation template is stored in a database) to save the changes.

   Alternatively (for all types), click the **Save** button on the toolbar.

Moving Reservation Templates from one File or Database to another

It is possible to move a Reservation template from one Reservation Template file or Reservation database to another. You do this by using the *Cut* and *Paste* functions. The Reservation template is copied from the source Reservation Template file or Reservation database to the target Reservation Template file or database. After you complete this procedure, the Conference definition is erased from the Source Template file or database and exists only in the target Reservation Template file or Reservation database.

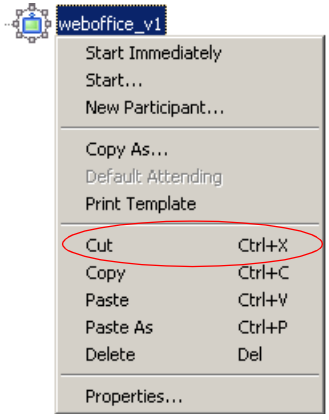
To move a Reservation Template from one file or database to another:

1. Open the Reservation Template file or Reservation database.
2. In the *Reservation Template file* window expand the *Conferences List* icon to list the Reservation templates.

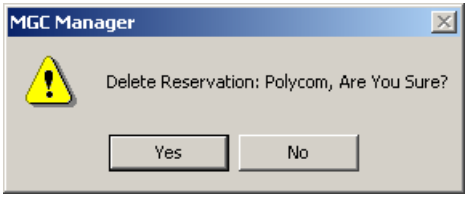
   In the *Reservations in Database* window, expand the *Groups tree* to locate the desired Reservation template.

   A list of Reservation templates appears below the *Conference List* or *Reservations Group* icon.

3. Right-click the Reservation template icon to be moved, and then click **Cut**.



The *MGC Manager* dialog box opens, prompting for confirmation.



4. Click **Yes** to confirm or **No** to cancel the Cut operation.

   The Reservation definition is moved from the source Reservation Template file or Reservation database to the clipboard.

5. Open the target *Reservation Template file or Reservations in Database* window.

6. In the *Reservations in Database* window, expand the *Groups tree* to locate the group to which the Reservation template is to be moved.

7. Right-click the *Conference List* or *Group* icon, and then click **Paste**.

The Reservation template is copied from the clipboard to the target Reservation Template file or to the target group in the Reservation database. A new conference icon is added to the list of Reservation templates listed under the *Conferences List* or *Group* icon.

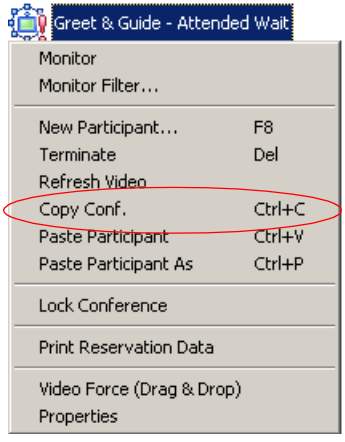
8. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation template file), or click **Save Database** on the *Database* menu (when the Reservation template is stored in a database) to save the changes.
Alternatively, click the **Save** button on the toolbar.

Copying an On Going Conference or a Conference Reservation to a Reservation Template File or Reservation Database

Another method for creating a Reservation template is to copy an On Going Conference or a Reservation to a Reservation Template file or Reservation database. This is useful when the same conference is being used repeatedly.

1. In the MGC Manager Main window, in the *Browser* area, expand the *On Going Conferences* or *Reservations* tree to list the On Going Conferences or Reservations.

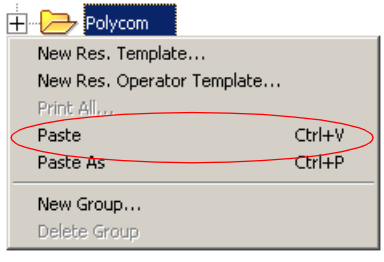
2. Right-click the icon of the conference or reservation to copy, and then click **Copy Conf**.



3. Open the target *Reservation Template file* or *Reservations in Database* window.

4. In the target *Reservation Template file* window, right-click the *Conferences List* icon
In *Reservations in Database* window, expand the Groups list until you locate the destination group and right-click the *Group* icon.

5. Click **Paste**.



The conference is copied from the clipboard to the target Reservation Template file or Reservation database. A new icon is added under the *Conference List* or *Group* icon.

6. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** on the

Database menu (when the Reservation template is stored in a database) to save the changes.

Alternatively, click the **Save** button on the toolbar.

Modifying Reservation Templates

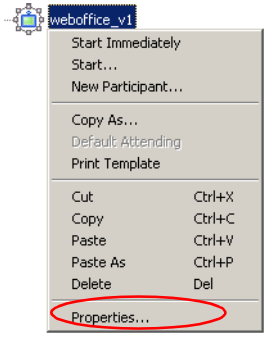
When the same Reservation template is used repeatedly, you may need to modify its parameters when conditions change.

When modifying a Reservation template, you can modify:

- Global conference information
- Individual participants' information

To modify global conference information:

1. In the *Reservation Template file* or *Reservations in Database* window, double-click the *Conferences List* or *Group* icon to expand the list of Reservation templates.
2. Right-click the icon of the Reservation template that you want to modify, and then click **Properties**.



The *Conference Properties* dialog box opens.

3. Modify the necessary conference properties. For a detailed description of the conference properties, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining a New Video Conference".
4. Click **OK** to complete the changes and close the *Conference Properties* dialog box.

5. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** on the *Database* menu (when the Reservation template is stored in a database) to save the changes.

   Alternatively, click the **Save** button on the toolbar.

   The changes you made in the Reservation template are saved.

To modify an individual participant's information:

1. In the *Reservation Template file* or *Reservations in Database* window, double-click the *Conferences List* or G*roup* icon to expand the list of Reservation templates.
2. Double-click the icon of the Reservation template to modify.

   The list of participants defined in the Reservation template appears below the Reservation template's icon.
3. Right-click the icon of the participant whose information you need to change, and then click **Properties**.
   Alternatively, double-click on the participant icon.

   The *Participant Properties* dialog box opens.
4. Modify the settings in the *Participant Properties* dialog box as needed. For a detailed description of the participant properties, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".
5. Click **OK** in the *Participant Properties* dialog box to complete the modification of the participant properties.
6. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** on the *Database* menu (when the Reservation template is stored in a database) to save the changes.

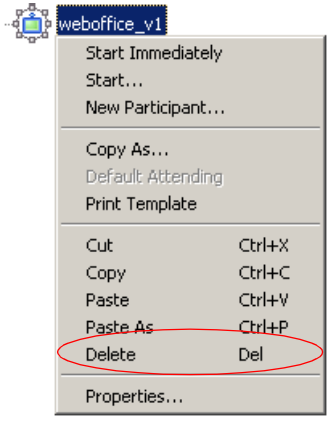
   Alternatively, click the **Save** button on the toolbar.

Deleting a Reservation Template

If a Reservation template is no longer needed, delete it to save disk space.

To delete a Reservation template from a Reservation Template file or Reservation database:

1. Open the Reservation Template file or Reservation database.
2. In the *Reservation Template file* window expand the *Conferences List* icon to list the Reservation templates.
   In the *Reservations in Database* window, expand the *Groups* tree to locate the desired Reservation template.
   A list of Reservation templates appears below the *Conference List* or *Reservations Group* icon.
3. Right-click the Reservation template icon to delete, and then click **Delete**.



   A confirmation dialog box is displayed.
4. Click **Yes** to confirm the deletion or **No** to cancel the operation. If you clicked *Yes* the Reservation template is deleted. The Reservation template icon and name are removed from the Reservations list.
5. Click **Save** on the *Template* menu (when the Reservation template is stored in a Reservation Template file) or click **Save Database** on the *Database* menu (when the Reservation template is stored in a database) to save the changes.
   Alternatively, click the **Save** button on the toolbar.

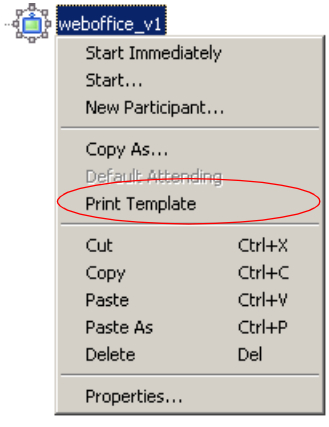
Printing the Template Information

The MGC Manager enables you to print the template information to a text file, printer or clipboard (to be imported to an external application).

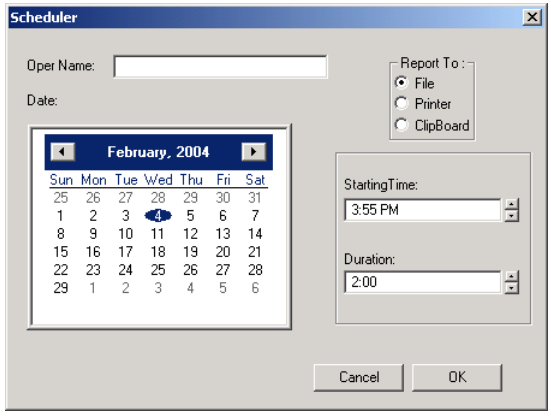
In addition, you can define the date, starting time and duration that should be defined to set a conference reservation based on this template. It allows you to use the printed data for scheduling conferences for the next day, week, month etc. You can also print the name of the operator that should schedule the conference.

To print the Template information:

1. Open the Reservation Template file or Reservation database that contains the conference to be printed.
2. Double click the *Conferences List* or *Groups* icon to expand the list of Reservation templates.
3. Right-click the Reservation template icon to print, and then click **Print Template**.



The *Scheduler* dialog box opens.



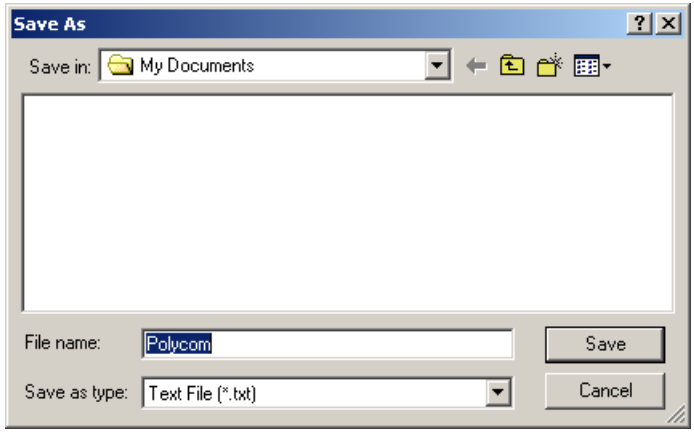
4. Define the following parameters:

Table 8-1: Print template parameters

Field	Description
Oper Name	The name of the operator printing the template information. Or, if you are using the printed data for scheduling reservations, you can enter the name of the operator who should schedule the conference.
Report To:	Select the printing destination. • *File* – The template information is saved to a text file. • *Printer* - The template information is sent to the default printer selected in Windows. • *ClipBoard* - The template information is sent to the clipboard. The data can then be imported to an external application.
Date	Use the arrows to select the month and year the conference should be set to start. Click to select the day on which the conference is scheduled to start.
Starting Time	Set the time at which the conference is to begin.
Duration	Enter the scheduled conference duration.

5. Click **OK**.

— If **File** is selected, the *Save As* dialog box opens, letting you save the text file to the desired folder.



Select the destination folder.

The system assigns the Reservation template name as the default file name. However, you can define another file name. The file can be saved only in text format.

Click **Save** to create the text file.

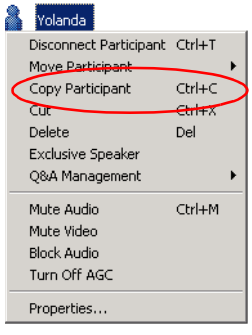
— If Printer is selected, the Print dialog box opens. Select the required printer and then click OK. The conference data is printed using the printer's current settings.

— If **Clipboard** is selected, the conference template data is copied to the clipboard, so you can paste it to a text processing application.

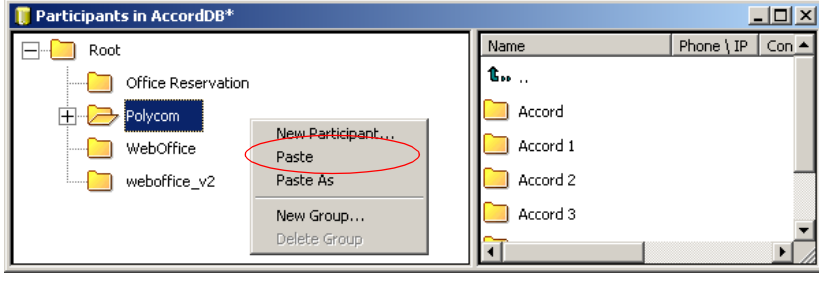
To view a printed sample of conference parameters, refer to the MGC Manager User's Guide, Volume 1, Chapter 6, "Printing Conference Data".

Adding a Participant from an On Going Conference or a Reservation to a Participant Template file or Participant database

1. In the MGC Manager Main window, in the *Browser* area, expand the *On Going Conferences* or *Reservations* tree to list the On Going Conferences or Reservations.
2. Double-click the *On Going Conference* icon or the *Reservation* icon or click the plus [+] icon next the respective icon to list its assigned participants.
3. Right-click the icon of the participant to copy to the Participant Template file or Participant database, and then click **Copy Participant**.



4. Open the Participant Template file or *Participants in Database* window.
5. In the *Participant Template file* window, right-click on a clear area anywhere in the template window.
   In the *Participants in Database* window, right-click the *Group* icon to which to paste the Participant template.



6. Click **Paste**.

   The new Participant template is added to the Participant Template file or Participant database.

   An asterisk appears in the title bar of the *Participant Template file* or *Participants in Database* window to indicate that changes have been made.

7. Click **Save** on the *Template* menu (when the Participant template is stored in a Participant Template file) or click **Save Database** on the *Database* menu (when the Participant template is stored in a database) to save the changes.
   Alternatively, click on the **Save** button on the toolbar.

   The asterisk is removed from the title bar of the *Participant Template file* or *Participants in Database* window. This confirms that the modifications have been saved.

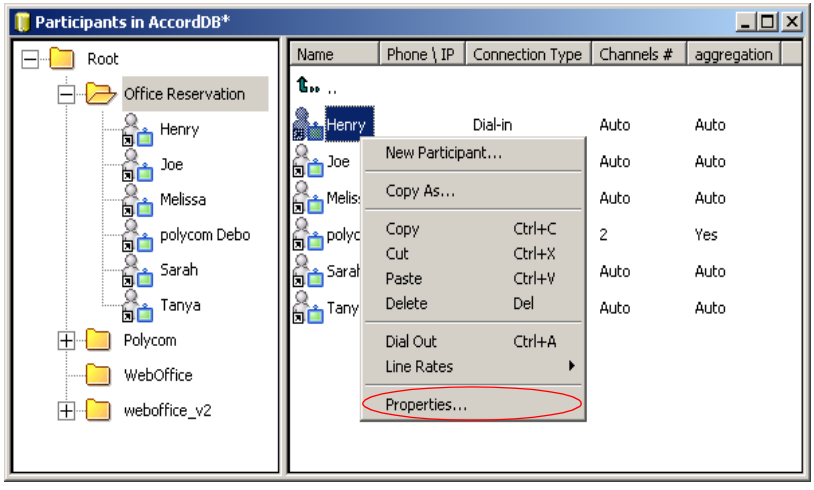
Modifying a Participant Definition in a Participant Template file or Participant Database

You may modify the properties of a Participant template stored in the Participant Template file or in the Participant database.

To modify the properties of a participant:

1. Open the *Participant Template file* or the *Participants in Database* window.

2. Right-click the icon of the participant to modify, and then click **Properties**, or double-click the participant's name.



The *Participant Properties* dialog box opens.

3. Change the settings in the *Participant Properties* dialog box as required. For more information, see the MGC Manager User's Guide, Volume I, Chapter 4, "Defining Participant Properties".

4. Click **OK** to complete the participant definition and exit the *Participant Properties* dialog box.
An asterisk appears in the title bar of the *Participant Template file* or *Participants in Database* window to indicate that changes have been made.

5. Click **Save** on the *Template* menu (when the Participant template is stored in a Participant Template file) or click **Save Database** on the *Database* menu (when the Participant template is stored in a database) to save the changes.
Alternatively, click the **Save** button on the toolbar. The asterisk is removed from the title bar of the *Participant Template file* or *Participants in Database* window. This confirms that the modifications have been saved.

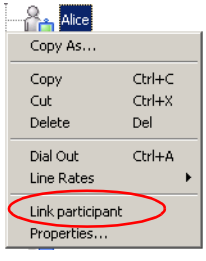
Linking/Unlinking Participants in the Database

Participants who are embedded in a Reservation template may be changed to become linked participants. In such a case, the participant properties are copied to the Participant database, and a new Participant template is created in the same group where the Reservation template is stored.

Linked participants may be unlinked. In such a case, the participant is embedded in the Reservation template and any change to his/her properties will not affect the template and the participant definition in other Reservation templates to which the Participant template was linked. Unlinking a participant does not delete the Participant template from the database.

To link/unlink a participant in the database:

1. Open the *Reservations in Database* window.
2. Expand the *Groups* tree and locate the desired Reservation template.
3. Double-click the *Reservation template* icon.
   A list of participants defined in the Reservation template appears below the Reservation template's icon.
4. Right-click the icon of the participant whose link status is to be changed.
5. Click **Link participant**, to change an embedded participant to a linked participant.



   Click **Unlink participant**, to embed the participant in the Reservation template and break the link to the Participant template stored in the Participant database.

   The system displays the definition to which the participant can toggle: either *Link participant* or *Unlink participant*, depending on the current definition of the participant.

The participant icon changes according to the selected option:

— *Linked participant* icons:

Audio Only

Audio and Video

— *Embedded participant* icons:

Audio Only

Audio and Video

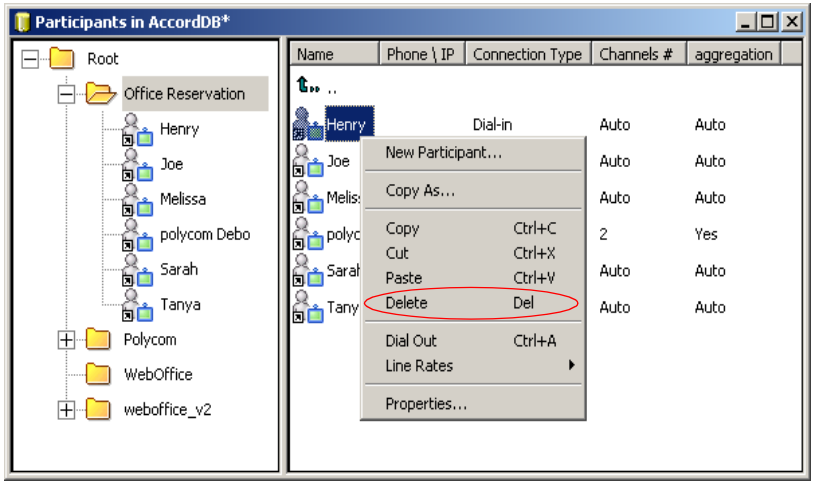
Deleting Participants from a Participant Template file or Participant Database

If a participant definition in a Participant Template file or Participant database is no longer needed, delete the participant to save disk space. To restore a deleted participant, you have to redefine his/her parameters.

To delete a Participant template:

1. Open the *Participant Template file* or the *Participants in Database* window.

2. Right-click the icon of the participant to delete, and then click **Delete**.



The participant is deleted. An asterisk appears in the title bar of the *Participant Template file* or *Participants in Database* window to indicate that changes have been made.

3. Click **Save** on the *Template* menu (when the Participant template is stored in a Participant Template file) or click **Save Database** on the *Database* menu (when the Participant template is stored in a database) to save the changes.
Alternatively, click the **Save** button on the toolbar.

   The asterisk is removed from the title bar of the *Participant Template file* or *Participants in Database* window. This confirms that the modifications have been saved.

9

Call Detail Record (CDR) Utility

The Call Detail Record (CDR) utility enables you to view summary information of conferences, such as the length of the conference and the list of participants. The CDR allows you to retrieve this information and archive it to a file that can be used to produce reports or can be exported to external billing programs.

The MCU can store details of up to 500 conferences. When this number is exceeded, the system overwrites conferences, starting with the earliest conference. To save the conferences' information, their data must be retrieved and archived to files. The frequency in which the archiving is performed depends on the daily, weekly or monthly volume of conferences run by the MCU (remember that several operator workstations can use the same MCU to run conferences). For example, if the MCU runs 300 conferences a week, you will have to archive the conference records approximately once a week. If the same volume is run in a month, you will have to archive the conference records once a month.
The conference records are stored in the MCU folder, in the Directory c:\mcu\cdr.

Each conference is a separate record in the MCU memory. When a conference is archived, it is archived as a separate file. Each conference CDR file contains a section with general information about the conference, such as the Conference ID, start time and duration, and a section for each event occurring during the conference, such as adding a new participant. The events logged in the CDR file include the following:

- Network channel connected
- Network channel disconnected
- MPI channel connected
- MPI channel disconnected
- H.323 call setup
- H.323 clear indication

- H.323 participant connected
- New undefined participant
- Operator added a participant
- Operator moved a participant from a conference
- Operator moved a participant to a conference
- Operator attended a participant
- Operator put a participant on hold
- Operator back to conference participant

For a full list of the conference events logged in the CDR file, see Appendix A, “CDR File Fields”.

The MGC Manager ignores events that it does not recognize (written in a higher version than its current version). To enable compatibility between versions, new fields in existing events are added as a separate event (a new entry), without affecting the events existing in previous versions. This allows users with lower versions to open CDR files that were retrieved in higher versions.

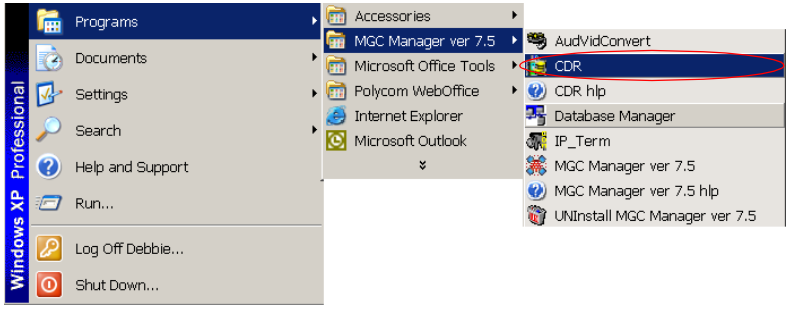
Viewing, Retrieving and Archiving Conference Information

You can use one of the two following methods to start the CDR utility and display the list of conference records:

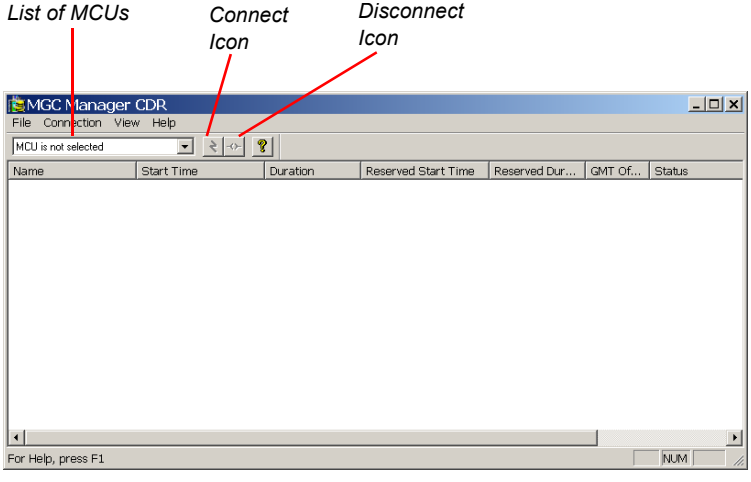
- Opening the CDR utility from the Start menu
- Opening the CDR utility through the MGC Manager right-click menu

To open the CDR utility from the Start menu:

1. From the *Start* menu, select *Programs - MGC Manager Ver 7.5*, and then click **CDR**.

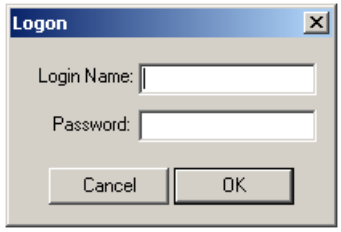


The *CDR* window opens.



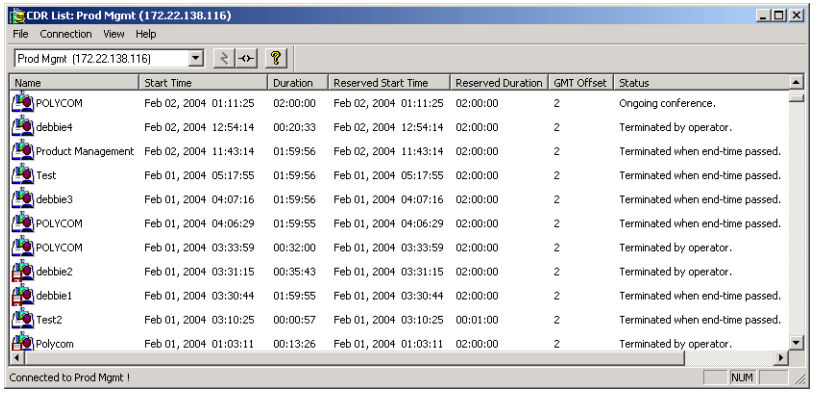
2. From the MCUs list, select the MCU whose conference records you wish to view.
   The *Connect* icon is enabled.

3. Click the *Connect* icon .
   The *Logon* dialog box opens.



4. Enter your login name and password, and then click **OK**.

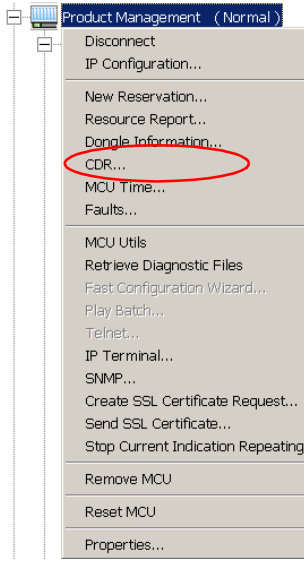
   The system displays the list of conference records currently stored in the MCU's memory.


CDR List: Prod Mgmt (172.22.138.116)
File Connection View Help
Prod Mgmt (172.22.138.116)
Name | Start Time | Duration | Reserved Start Time | Reserved Duration | GMT Offset | Status
POLYCOM | Feb 02, 2004 01:11:25 | 02:00:00 | Feb 02, 2004 01:11:25 | 02:00:00 | 2 | Ongoing conference.
debbie4 | Feb 02, 2004 12:54:14 | 00:20:33 | Feb 02, 2004 12:54:14 | 02:00:00 | 2 | Terminated by operator.
Product Management | Feb 02, 2004 11:43:14 | 01:59:56 | Feb 02, 2004 11:43:14 | 02:00:00 | 2 | Terminated when end-time passed.
Test | Feb 01, 2004 05:17:55 | 01:59:56 | Feb 01, 2004 05:17:55 | 02:00:00 | 2 | Terminated when end-time passed.
debbie3 | Feb 01, 2004 04:07:16 | 01:59:56 | Feb 01, 2004 04:07:16 | 02:00:00 | 2 | Terminated when end-time passed.
POLYCOM | Feb 01, 2004 04:06:29 | 01:59:55 | Feb 01, 2004 04:06:29 | 02:00:00 | 2 | Terminated when end-time passed.
POLYCOM | Feb 01, 2004 03:33:59 | 00:32:00 | Feb 01, 2004 03:33:59 | 02:00:00 | 2 | Terminated by operator.
debbie2 | Feb 01, 2004 03:31:15 | 00:35:43 | Feb 01, 2004 03:31:15 | 02:00:00 | 2 | Terminated by operator.
debbie1 | Feb 01, 2004 03:30:44 | 01:59:55 | Feb 01, 2004 03:30:44 | 02:00:00 | 2 | Terminated when end-time passed.
Test2 | Feb 01, 2004 03:10:25 | 00:00:57 | Feb 01, 2004 03:10:25 | 00:01:00 | 2 | Terminated when end-time passed.
Polycom | Feb 01, 2004 01:03:11 | 00:13:26 | Feb 01, 2004 01:03:11 | 02:00:00 | 2 | Terminated by operator.
Connected to Prod Mgmt !
NUM

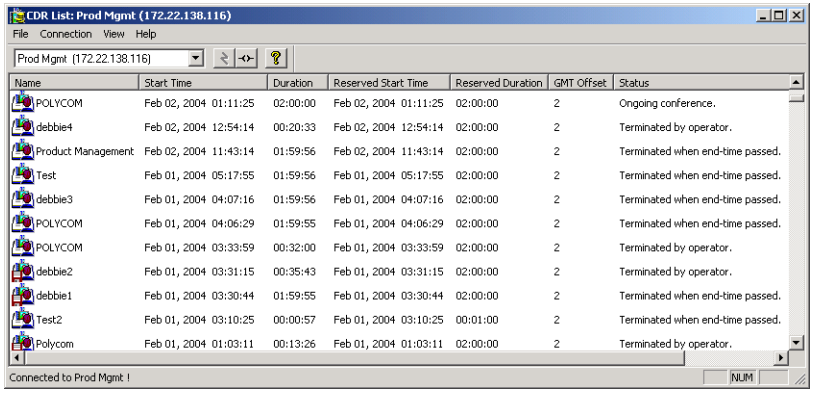
To open the CDR utility through the MGC Manager right-click menu:

1. If the MGC Manager is not connected to the MCU, connect it now. For more information, see “Connecting to an MCU” in the MGC Manager User’s Guide, Volume I, Chapter 2, “Connecting to an MCU”.

2. Right-click the *MCU* icon, and then click **CDR**.



The *CDR* window opens, displaying the list of conference records.


CDR List: Prod Mgmt (172.22.138.116)
File Connection View Help
Prod Mgmt (172.22.138.116)
Name Start Time Duration Reserved Start Time Reserved Duration GMT Offset Status
POLYCOM Feb 02, 2004 01:11:25 02:00:00 Feb 02, 2004 01:11:25 02:00:00 2 Ongoing conference.
debbie4 Feb 02, 2004 12:54:14 00:20:33 Feb 02, 2004 12:54:14 02:00:00 2 Terminated by operator.
Product Management Feb 02, 2004 11:43:14 01:59:56 Feb 02, 2004 11:43:14 02:00:00 2 Terminated when end-time passed.
Test Feb 01, 2004 05:17:55 01:59:56 Feb 01, 2004 05:17:55 02:00:00 2 Terminated when end-time passed.
debbie3 Feb 01, 2004 04:07:16 01:59:56 Feb 01, 2004 04:07:16 02:00:00 2 Terminated when end-time passed.
POLYCOM Feb 01, 2004 04:06:29 01:59:55 Feb 01, 2004 04:06:29 02:00:00 2 Terminated when end-time passed.
POLYCOM Feb 01, 2004 03:33:59 00:32:00 Feb 01, 2004 03:33:59 02:00:00 2 Terminated by operator.
debbie2 Feb 01, 2004 03:31:15 00:35:43 Feb 01, 2004 03:31:15 02:00:00 2 Terminated by operator.
debbie1 Feb 01, 2004 03:30:44 01:59:55 Feb 01, 2004 03:30:44 02:00:00 2 Terminated when end-time passed.
Test2 Feb 01, 2004 03:10:25 00:00:57 Feb 01, 2004 03:10:25 00:01:00 2 Terminated when end-time passed.
Polycom Feb 01, 2004 01:03:11 00:13:26 Feb 01, 2004 01:03:11 02:00:00 2 Terminated by operator.
Connected to Prod Mgmt !
NUM

To disconnect from the MCU:

1. Click the **Disconnect** icon .
2. The MCU is disconnected and the *CDR* window returns to a blank screen.

The CDR Window Conferences List

The Conferences list summarizes the information of each conference stored in the MCU's memory in a table format. Each row of the table represents a conference record. Each column represents a data field in the record.

Table 9-1: Conference Record Fields

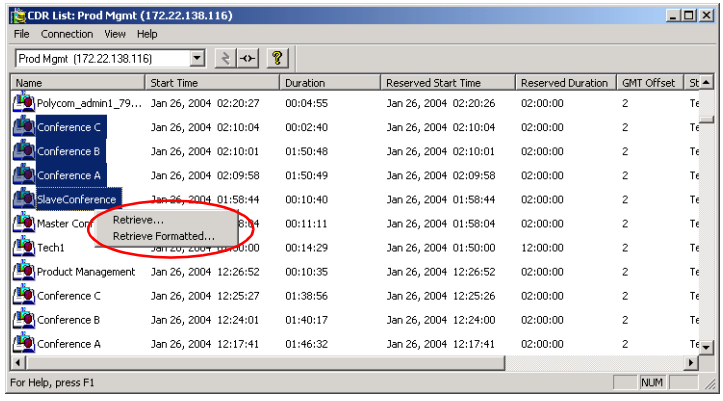
Field	Description
Name	The name of the conference.
Start Time	The actual time that the conference started.
Duration	The conference duration.
Reserved Start Time	The time the conference was scheduled to start. Discrepancy between the scheduled and the actual start time may indicate that a communication problem occurred at the beginning of the conference.
Reserved Duration	The time the conference was scheduled to last. Discrepancy between the scheduled and the actual duration may indicate that the conference duration was prolonged or shortened.
GMT Offset	The time zone difference between your site and Greenwich Mean Time.
Status	The conference status.
File Retrieved	Indicates whether the conference record was retrieved and archived. A diskette icon indicates that the conference record was saved to file.

Retrieving and Archiving Conference Records

To retrieve and archive conference records:

1. Select the conference whose information you would like to retrieve and archive from the conferences list.
   Use standard Windows multi-selection methods to select several records.

2. Right-click one of the highlighted conference records.

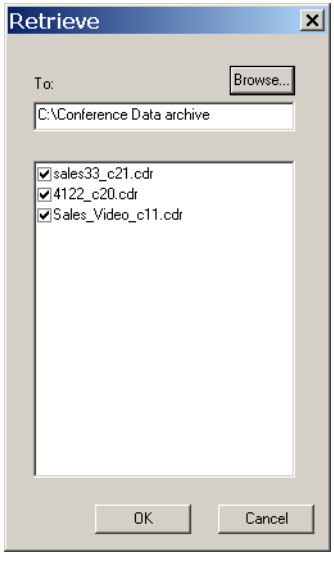


3. Select one of the following options:

   — **Retrieve -**To retrieve the conference raw data in an unformatted format and save it to a text file whose extension is *.cdr. This data can be transferred to an external program such as Microsoft Excel© for billing purposes. For a sample of an unformatted conference file, see Figure 9-1, "Unformatted CDR Record" on page 9-11. The fields in the unformatted file are detailed in Appendix A, "CDR File Fields".

   — **Retrieve Formatted -** To retrieve the conference data in formatted format and save it to a text file whose extension is *.cdf. In the formatted file each field value appears in a separate line, together with its name. This data can be used to generate a summary report for the desired conferences. For a sample of a formatted conference file, see Figure 9-2, "Formatted CDR Record" on page 9-12.

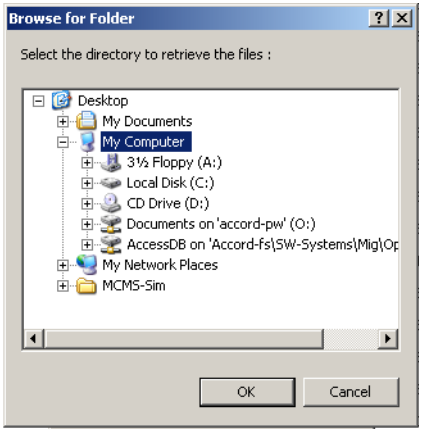
The *Retrieve* dialog box opens.



The system displays the list of conferences selected for retrieval and archiving. You can change the selection and exclude conferences from this list by clearing the conference's checkbox.

4. Type the path of the destination folder where the conference data file will be stored in the *To* box, or click the **Browse** button to select the folder.

   If you click the **Browse** button, the *Browse for Folder* dialog box opens.



5. Select the destination folder where the conference data file will be stored and click **OK**.

   The files are saved to the selected location. The name of the file is taken from the conference name. Files created using the *Retrieve* function, have the extension *.cdr. Files created using the *Retrieve Formatted* function, have the extension *.cdf.

   When the system has finished processing the file, a confirmation message is displayed.

6. Click **OK**.

7. To refresh the conference list, on the *File* menu, select **Refresh**.

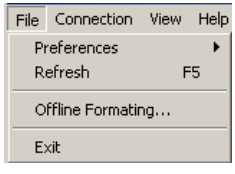
   The conference icon in the conferences list changes from to to indicate that the conference data was saved.

Off-Line Formatting

Unformatted CDR text files, that were created using the *Retrieve* function, can be formatted later to create formatted reports.

To format a retrieved file off-line:

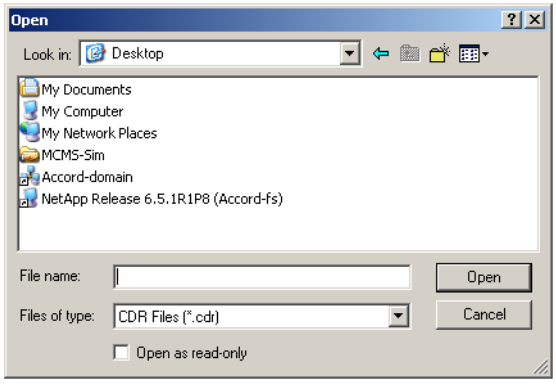
1. Select **Off Line Formatting** from the *File* menu in the *CDR* window.

2. 

   A confirmation dialog box opens.

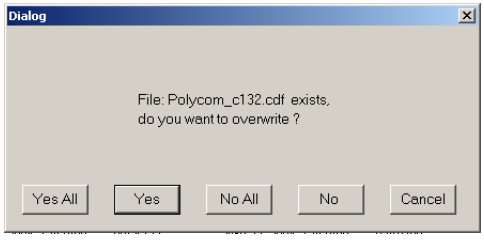
3. Click **OK**.

The *Open* dialog box opens.



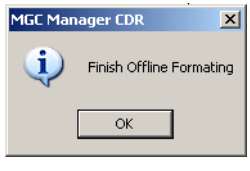
4. Navigate to the folder containing the retrieved text file (*.cdr) and select the file to be formatted. You may select several files to be formatted using the standard Windows techniques.
5. Click **Open.**

   If the retrieved formatted version of the conference record already exists, the following message is displayed:



   Select **Yes** to overwrite the existing file or **No** to cancel the formatting for the file and continue the formatting of the remaining files. Select **Cancel** to cancel the operation.

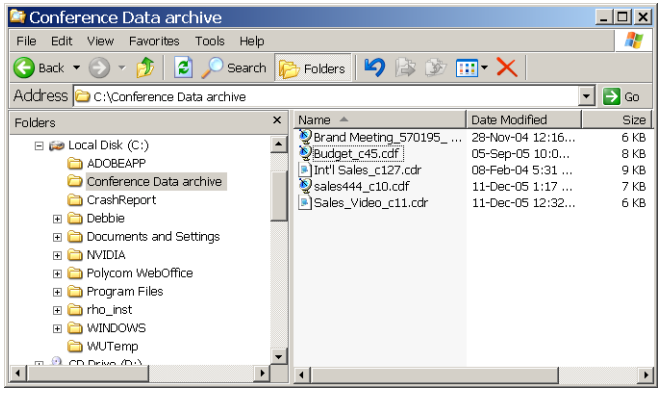
   At the end of the formatting process, a message is displayed.



6. Click **OK**.

Viewing the Archived Files and Generating Reports

The archived files (*.cdr and *.cdf) are text files that can be viewed using any text editor, such as Notepad.



The archived files can have two formats, unformatted or formatted, depending on the Retrieve option used.

To display the contents of a file, double-click its name in the Windows Explorer window.

If the file was saved using the *Retrieve* function (*.cdr), the data is displayed without any field listing or indication in the following manner:

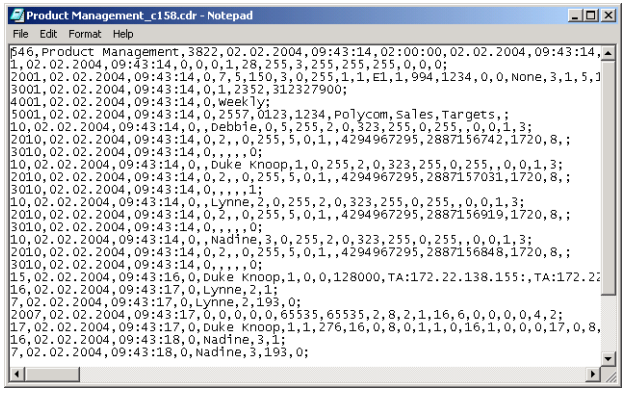


Figure 9-1: Unformatted CDR Record

If the file was saved using the *Retrieve Formatted* function (*.cdf), the information will be displayed in the following manner:

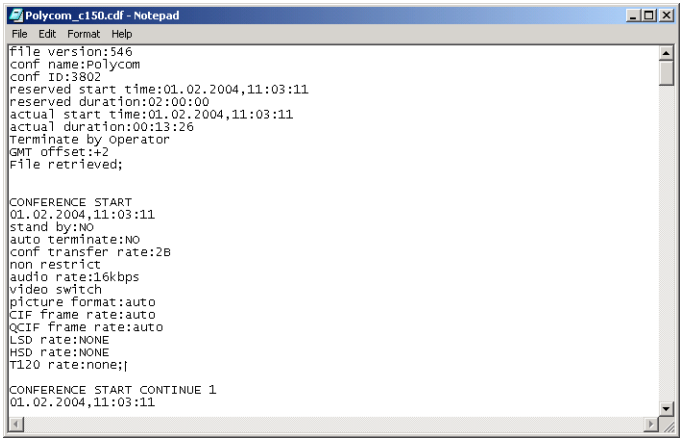
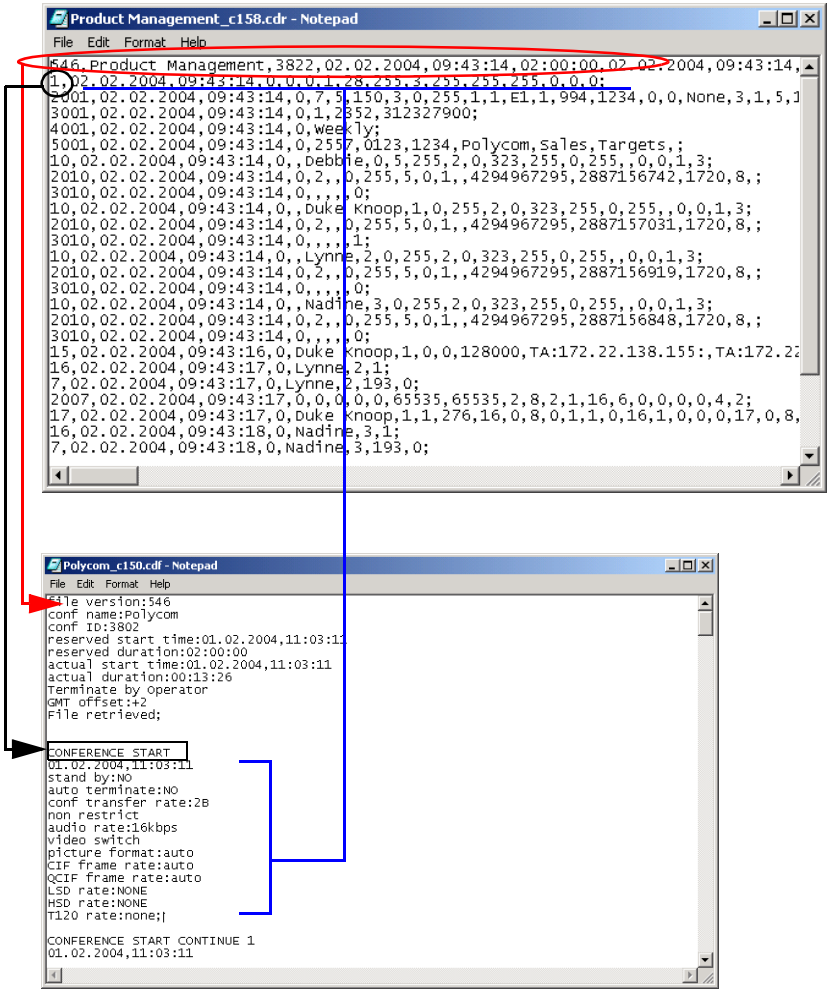


Figure 9-2: Formatted CDR Record

CDR File Structure

The following figure describes how the same data is represented in the unformatted and formatted files.



Formatted CDR files contain multiple sections. Unformatted CDR files contain multiple records. The first section or record in each file contains

general conference data. The remaining sections or records contain event data, one section or record for each event.

The general conference section or record contains the following information: conference name, ID, scheduled starting date and time and actual starting date and time, scheduled conference duration and actual duration, whether the conference is On Going or how the conference was terminated, and whether the conference was previously retrieved to a CDR file.

The event sections or records contain an event type or event type code, followed by event data. For example, an event type may be that a participant connects to the conference, and the event data will list the date and time the participant connects to the conference, the participant name and ID, and the participant capabilities used to connect to the conference.

For a full description of the CDR file record types and fields, see Appendix A, “CDR File Fields”.

A

Appendix A: CDR File Fields

The CDR (Call Detail Records) utility is used to retrieve conference information to a file.

CDR Files and Records

The CDR utility can retrieve conference information to a file in both formatted and unformatted formats.

Unformatted CDR files contain multiple records.The first record in each file contains information about the conference in general, such as the conference name and start time. The remaining records each contain information about one event that occurred during the conference, such as a participant connecting to the conference, or the operator extending the length of the conference. The first field in each record identifies the event type, and this is followed by values containing information about the event. The fields are separated by commas.

Formatted files contain the same information as unformatted files, but with the field values replaced by descriptions. Formatted files are divided into sections, each containing information about one conference event. The first line in each section is a title describing the type of event, and this is followed by multiple lines, each containing information about the event, either in the form of a descriptive field name and value, for example, *entry tone:OFF*, or just a descriptive field value, for example, *no audio resource force*.

This appendix describes the fields and values in the unformatted CDR records. Although the formatted files contain the same information, in a few instances a single field in the unformatted file is converted to multiple lines in the formatted file, and in other cases, multiple fields in the unformatted file are combined into one line in the formatted file.

The MCU sends the entire CDR file via API, and the MGC Manager or external application does the processing and sorting. The MGC Manager ignores events that it does not recognize, that is, events written in a higher version that do not exist in the current version. Therefore, to enable compatibility between versions, instead of adding new fields to existing events, new fields are added as separate events, so as not to affect the events from older versions.

The Conference Summary Record

The conference summary record (the first record in the unformatted CDR file) contains the following fields:

Table A-1: Conference Summary Record Fields

Field	Description
File version	The version of the CDR utility that created the file.
Conference Name	The conference name.
Conference ID	The conference identification number as assigned by the system.
Reserved Start Time	The time the conference was scheduled to start according to GMT time.
Reserved Duration	The amount of time the conference was scheduled to last.
Actual Start Time	The actual time that the conference started according to GMT time.
Actual Duration	The actual conference duration.

Table A-1: Conference Summary Record Fields (Continued)

Field	Description
Status	The conference status code as follows: **1** - The conference is an On Going Conference. **2** - The conference was terminated by an operator. **3** - The conference ended at the scheduled end time. **4** - The conference ended automatically when all the participants disconnected from the conference. **252** - The conference never started since the scheduled end-time was surpassed at startup. **253** - The conference could not become an On Going Conference due to a problem. **254 -** The conference was ended by an MCU reset. **255** - An unknown error occurred.
File Name	The name of the conference log file.
GMT Offset Sign	Indicates whether the difference in the time zone is plus or minus as follows: **0** - Minus **1** - Plus
GMT Offset	The difference in time zone between your site and Greenwich mean time.
File Marked	Indicates if the file has been retrieved and archived, as follows: **0** - No **1** - Yes

Event Records

The event records, that is, all records in the unformatted file except the first record, contain standard fields, such as the time stamp, and the event type code, followed by fields that are event specific.

Standard Event Record Fields

All unformatted event records start with the following fields:

Table A-2: Event Record Standard Fields

Field	Description
CDR Event Type Code	The CDR event type code, as follows: **1** - The conference started. **2** - The conference ended. **3** - A network channel connected. **4** - A network channel disconnected. **5** - A participant connected. **7** - A participant disconnected. **8** - A change occurred in the remote communication mode. **9** - A summary of participant errors. **10** - A reserved participant was added. **11** - An ATM channel connected. **12** - An ATM channel disconnected. **13** - An MPI channel connected. **14** - An MPI channel disconnected. **15** - An H.323 call setup occurred. **16** - An H.323 clear indication occurred. **17** - An H.323 participant connected. **18** - A new undefined participant joined the conference. **19** - An unrecognized event occurred. **20** - A participant entered a billing code using DTMF codes. **21** - An operator assigned a visual name to a participant. **22** - A DTMF code failure occurred. **23** - A SIP participant connected. **24** - A SIP call setup occurred. **25** - A SIP clear indication occurred.

Table A-2: Event Record Standard Fields (Continued)

Field	Description
CDR Event Type Code (cont.)	**26** - A recording event occurred, for example, recording started or recording resumed. **27** - A recording system playback or recording event occurred. **Note:** The event code **27** is only applicable to Conference Recorders **28** - SIP Private Extensions. **100** - An operator terminated the conference. **101** - An operator added a participant to the conference. **102** - An operator deleted a participant from the conference. **103** - An operator disconnected a participant. **104** - An operator reconnected a participant. **105** - An operator updated the properties of a participant. **106** - An operator set a new end time. **107** - An operator moved a participant from the conference to another conference. **108** - An operator moved a participant to the conference from another conference. **109** - An operator moved a participant to the Operator conference (Attended conference). **110** - An operator put a participant on hold (Attended conference). **111** - An operator moved the participant back to the conference (Attended conference). **112** - An operator moved an attended participant to the conference. **113** - An operator added a remark. **116** - Not used. **2001** - Conference Start Continue 1 - additional information about a Conference Start event. **2007** - Participant Disconnected Continue 1 - additional information about a Participant Disconnected event. **2010** - Reserved Participant Continue 1 - additional information about a reserved participant who was added. **2101** - Operator Added Participant Continue 1 - additional information about a Participant Added event.

Table A-2: Event Record Standard Fields (Continued)

Field	Description
CDR Event Type Code (cont.)	**2105** - Operator Updated the Participant Properties Continue 1 - additional information about an event in which the operator updated the participant properties. **2108** - Operator Moved a Participant to the Conference from Another Conference Continue 1 - additional information about an event in which the operator moved a participant to the conference from another conference. **3001** - Conference Start Continue 2 - web reservation information for a Conference Start event. **3010** - Participant user defined information. **3108** - Operator Moved a Participant to the Conference from Another Conference Continue 2 - additional information about an event in which the operator moved a participant to the conference from another conference. **4001** - Conference Start Continue 3 - conference remarks for a Conference Start event. **5001** - Conference Start Continue 4 - additional information for a Conference Start event. **Note:** An additional Conference Start Continue 4 event (CDR event type code **50001**) will be written to the CDR each time one of the following conference fields is modified: • Chairperson/Web Password • Billing Code • Used Defined 1,2, or 3.
Time-Stamp	The event GMT time.
Structure Length	The length of the event record. Required for compatibility purposes, to avoid problems of old versions with new messages.

Event Types

The table below contains a brief description of each type of event that can be logged in the CDR file, and indicates where to find details of the fields that are specific to that type of event.

Table A-3: CDR Event Types

Event	Description
Conference Start	CDR event code 1. Conference general and summary information. For a description of the fields see Table A-4, "Event Fields for Event 1 - Conference Start" on page A-17. **Note:** There is one Conference Start event per conference. It is always the first event in the file, after the conference summary record. It contains reservation details, but not participant details.
Conference Start Continue 1	CDR event code 2001. Additional information about a Conference Start event. For a description of the fields see Table A-5, "Event Fields for Event 2001 - Conference Start Continue 1" on page A-22.
Conference Start Continue 2	CDR event code 3001. Additional information about a Conference Start event. For a description of the fields see Table A-6, "Event Fields for Event 3001 - Conference Start Continue 2" on page A-25.
Conference Start Continue 3	CDR event code 4001. Additional information about a Conference Start event. For a description of the fields see Table A-7, "Event Fields for Event 4001 - Conference Start Continue 3" on page A-26.

Table A-3: CDR Event Types (Continued)

Event	Description
Conference Start Continue 4	CDR event code 5001. Additional information about a Conference Start event. For a description of the fields see Table A-8, “Event Fields for Event 5001 - Conference Start Continue 4” on page A-26. **Note:** An additional Conference Start Continue 4 event will be written to the CDR each time the value of one of the following conference fields is modified: • Chairperson/Web Password • Billing Code • Used Defined. These additional events will only contain the value of the modified field.
Conference End	CDR event code 2. Contains the conference termination cause. For a description of the fields see Table A-12, “Event Fields for Event 2 - Conference End” on page A-29. **Note:** There is one Conference End event per conference, and it is always the last event in the file.
Net Channel Connected	CDR event code 3. The connection of a network channel. For a description of the fields see Table A-13, “Event Fields for Event 3 - Net Channel Connected” on page A-29.
Net Channel Disconnected	CDR event code 4. The disconnection of a network channel. For a description of the fields see Table A-16, “Event Fields for Event 4 - Net Channel Disconnected” on page A-33.

Table A-3: CDR Event Types (Continued)

Event	Description
Participant Connected	CDR event code 5. The connection of a participant to the conference. For a description of the fields see Table A-18, "Event Fields for Event 5 - Participant Connected" on page A-34.
Participant Disconnected	CDR event code 7. The disconnection of a participant from the conference. For a description of the fields see Table A-19, "Event Fields for Event 7 - Participant Disconnected" on page A-35.
Participant Disconnected Continue 1	CDR event code 2007. Additional information about a Participant Disconnection event. For a description of the fields see Table A-20, "Event Fields for Event 2007 - Participant Disconnected Continue 1" on page A-36.
Remote Communication Mode	CDR event code 8. Information about a change in the communication mode made by the participant during the conference. For a description of the fields see Table A-21, "Event Fields for Event 8 - Remote Communication Mode" on page A-37.
Participant Errors Summary	CDR event code 9. A summary of any problems that occurred during the connection of the participant to the conference. For a description of the fields see Table A-22, "Event Fields for Event 9 - Participant Errors Summary" on page A-37.

Table A-3: CDR Event Types (Continued)

Event	Description
Reserved Participant	CDR event code 10. Information about a reserved participant. For a description of the fields see Table A-23, “Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant” on page A-38. **Note:** There is one event for each participant in the reservation.
Reserved Participant Continue 1	CDR event code 2010. Additional information about a reserved participant. For a description of the fields see Table A-24, “Event Fields for Events 2010, 2101, 2105 - Reserved Participant Continue 1, Operator Add Participant Continue 1, Operator Update Participant Continue 1” on page A-41.
ATM Channel Connected	CDR event code 11. The connection of an ATM channel. For a description of the fields see Table A-25, “Event Fields for Event 11 - ATM Channel Connected” on page A-43.
ATM Channel Disconnected	CDR event code 12. The disconnection of an ATM channel. For a description of the fields see Table A-26, “Event Fields for Event 12 - ATM Channel Disconnected” on page A-44.
MPI Channel Connected	CDR event code 13. The connection of an MPI channel. For a description of the fields see Table A-27, “Event Fields for Event 13 - MPI Channel Connected” on page A-44.
MPI Channel Disconnected	CDR event code 14. The disconnection of an MPI channel. For a description of the fields see Table A-28, “Event Fields for Event 14 - MPI Channel Disconnected” on page A-45.

Table A-3: CDR Event Types (Continued)

Event	Description
H.323 Call Setup	CDR event code 15. The call setup of an H.323 participant. For a description of the fields see Table A-29, "Event Fields for Events 15, 24 - H.323 Call Setup, SIP Call Setup" on page A-46.
H.323 Clear Indication	CDR event code 16. The clear indication (termination of the call) of an H.323 participant. For a description of the fields see Table A-30, "Event Fields for Events 16, 25 - H.323 Clear Indication, SIP Clear Indication" on page A-47.
H.323 Participant Connected	CDR event code 17. The connection of an H.323 participant. For a description of the fields see Table A-31, "Event Fields for Events 17, 23 - H.323 Participant Connected, SIP Participant Connected" on page A-47.
New Undefined Participant	CDR event code 18. A new undefined participant was added to the conference. For a description of the fields see Table A-32, "Event Fields for Event 18 - New Undefined Participant" on page A-49.
Unrecognized Event	CDR event code 19. An unknown event occurred. This event has no fields.
Participant Add Billing Code	CDR event code 20. A billing code was entered by a participant using DTMF codes. For a description of the fields see Table A-33, "Event Fields for Event 20 - Participant Add Billing Code" on page A-53.

Table A-3: CDR Event Types (Continued)

Event	Description
Set Participant Visual Name	CDR event code 21. An operator assigned a new name to a participant. For a description of the fields see Table A-34, “Event Fields for Event 21 - Set Participant Visual Name” on page A-54.
DTMF Code Failure	CDR event code 22. An error occurred when a participant input a DTMF code. For a description of the fields see Table A-35, “Event Fields for Event 22 - DTMF Code Failure” on page A-54.
SIP Participant Connected	CDR event code 23. The connection of a SIP participant. For a description of the fields see Table A-31, “Event Fields for Events 17, 23 - H.323 Participant Connected, SIP Participant Connected” on page A-47.
SIP Call Setup	CDR event code 24. The call setup of a SIP participant. For a description of the fields see Table A-29, “Event Fields for Events 15, 24 - H.323 Call Setup, SIP Call Setup” on page A-46.
SIP Clear Indication	CDR event code 25. The clear indication (termination of the call) of a SIP participant. For a description of the fields see Table A-30, “Event Fields for Events 16, 25 - H.323 Clear Indication, SIP Clear Indication” on page A-47.
Recording Link Event	CDR event code 26. A recording event, such as recording started or resumed. For a description of the fields see Table A-36, “Event Fields for Event 26 - Recording Link Event” on page A-55.

Table A-3: CDR Event Types (Continued)

Event	Description
Recording System Link Event	CDR event code 27. A recording system playback or recording event. **Note:** This event type is only applicable to Conference Recorders. For a description of the fields see Table A-37, "Event Fields for Event 27 - Recording System Link Event" on page A-56.
SIP Private Extensions	CDR event code 28. Contains SIP Private Extensions information. For a description of the fields see Table A-38, "Event Fields for Event 28 - SIP Private Extensions" on page A-57.
Operator Terminate Conference	CDR event code 100. The conference was terminated by an operator. For a description of the fields see Table A-39, "Event Fields for Event 100 - Operator Terminate Conference" on page A-57.
Operator Add Participant	CDR event code 101. A participant was added during the conference by an operator For a description of the fields see Table A-23, "Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant" on page A-38.
Operator Add Participant Continue 1	CDR event code 2101. Additional information about an Operator Add Participant event. For a description of the fields see Table A-24, "Event Fields for Events 2010, 2101, 2105 - Reserved Participant Continue 1, Operator Add Participant Continue 1, Operator Update Participant Continue 1" on page A-41.

Table A-3: CDR Event Types (Continued)

Event	Description
Operator Delete Participant	CDR event code 102. A participant was deleted from the conference by an operator. For a description of the fields see Table A-40, “Event Fields for Events 102,103, 104 - Operator Delete Participant, Operator Disconnect Participant, Operator Reconnect Participant” on page A-58.
Operator Disconnect Participant	CDR event code 103. A participant was disconnected from the conference by an operator. For a description of the fields see Table A-40, “Event Fields for Events 102,103, 104 - Operator Delete Participant, Operator Disconnect Participant, Operator Reconnect Participant” on page A-58.
Operator Reconnect Participant	CDR event code 104. A participant who was disconnected from the conference was reconnected by an operator. For a description of the fields see Table A-40, “Event Fields for Events 102,103, 104 - Operator Delete Participant, Operator Disconnect Participant, Operator Reconnect Participant” on page A-58.
Operator Update Participant	CDR event code 105. An operator updated the properties of a participant during the conference, for example, an operator changed the Video Layout. For a description of the fields see Table A-23, “Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant” on page A-38.
Operator Update Participant Continue 1	CDR event code 2105. Additional information about an Operator Update Participant event. For a description of the fields see Table A-24, “Event Fields for Events 2010, 2101, 2105 - Reserved Participant Continue 1, Operator Add Participant Continue 1, Operator Update Participant Continue 1” on page A-41.

Table A-3: CDR Event Types (Continued)

Event	Description
Operator Set End Time	CDR event code 106. An operator modified the conference end time. For a description of the fields see Table A-41, "Event Fields for Event 106 - Operator Set End Time" on page A-58.
Operator Move Participant from Conference	CDR event code 107. A participant was moved from this conference to another conference. For a description of the fields see Table A-42, "Event Fields for Events 107, 109 - Operator Move Participant from Conference, Operator Attend Participant" on page A-58.
Operator Move Participant to Conference	CDR event code 108. A participant was moved from another conference to this conference. For a description of the fields see Table A-43, "Event Fields for Events 108, 112 - Operator Move Participant to Conference, Attend Participant to Operator Conference" on page A-59.
Operator Move Participant to Conference Continue 1	CDR event code 2108. Additional information about an Operator Move Participant to Conference event. For a description of the fields see Table A-44, "Event Fields for Event 2108 - Operator Move Participant to Conference Continue 1" on page A-64.
Operator Move Participant to Conference Continue 2	CDR event code 3108. Additional information about an Operator Move Participant to Conference event. For a description of the fields see Table A-45, "Event Fields for Event 3108 - Operator Move Participant to Conference Continue 2" on page A-64.

Table A-3: CDR Event Types (Continued)

Event	Description
Operator Attend Participant	CDR event code 109. A participant was moved to an Operator conference. For a description of the fields see Table A-42, “Event Fields for Events 107, 109 - Operator Move Participant from Conference, Operator Attend Participant” on page A-58.
Operator On hold Participant	CDR event code 110. An operator put a participant on hold during the conference. For a description of the fields see Table A-46, “Event Fields for Events 110, 111 - Operator On Hold Participant, Operator Back to Conference Participant” on page A-64.
Operator Back to Conference Participant	CDR event code 111. A participant was moved back from an Operator conference to the Home conference. For a description of the fields see Table A-46, “Event Fields for Events 110, 111 - Operator On Hold Participant, Operator Back to Conference Participant” on page A-64.
Operator Attend Participant to Conference	CDR event code 112. A participant was moved to the conference by an operator. For a description of the fields see Table A-43, “Event Fields for Events 108, 112 - Operator Move Participant to Conference, Attend Participant to Operator Conference” on page A-59.
Conference Remarks	CDR event code 113. A remark was added by an operator during the conference. For a description of the fields see Table A-48, “Event Fields for Event 113 - Conference Remarks” on page A-65.

Table A-3: CDR Event Types (Continued)

Event	Description
User Defined Information	CDR event code 3010. Participant information was added. For a description of the fields see Table A-49, "Event Fields for Event 3010 - User Defined Information" on page A-66.

Event Specific Fields

The following tables describe the fields which are specific to each type of event.

Table A-4: Event Fields for Event 1 - Conference Start

Field	Description
Stand-By	Indicates whether the conference was a standby conference or not. A standby conference is a conference in which the MCU initiates the communication with dial-out or direct participants. Communication is established only at the reconnect command from operator. Possible values are: **0** - The conference was *not* a standby conference. **1** - The conference was a standby conference.
Automatic Termination	Indicates whether the conference ended automatically when all participants disconnected. This applies only when two participants have already joined the conference. Possible values are: **0** - The conference did *not* end automatically. **1** - The conference ended automatically.

Table A-4: Event Fields for Event 1 - Conference Start (Continued)

Field	Description
Conference Transfer Rate	The conference line rate, as follows: **0** - 1B **1** - 2B **2** - 3B **3** - 4B **4** - 5B **5** - 6B **6** - 384 kbps **13** - 128 kbps **14** - 192 kbps **15** - 256 kbps **16** - 320 kbps **23** - 512 kbps **24** - 768 kbps **26** - 1152 kbps **61** - 1472 kbps **11** - 1536 kbps **12** - 1920 kbps
Restrict Mode	Indicates whether the conference was set to a restricted line rate (56 kbps) or normal (64 kbps), as follows: **27** - Restrict **28** - Non-restrict **255** - Auto
Audio Rate	Indicates which audio algorithm was used to run the conference, as follows: **255** - Auto **19** - 56 kbps G-711 (When using restricted lines, 56 kbps and 48 kbps are similar.) **21** - 48 kbps G-711 **24** - 56 kbps G-722. If the endpoint does not support G-722 then the conference will use G-711. (When using restricted lines, 56 kbps and 48 kbps are similar.) **25** - 48 kbps G-722. If the endpoint does not support G-722, then the conference will use G-711. **29** - 16 kbps

Table A-4: Event Fields for Event 1 - Conference Start (Continued)

Field	Description
Video Session	The video session type, as follows: **1** - Video Switching **2** - Video Transcoding **3** - Continuous Presence **4** - Software Continuous Presence **5** - Advanced Layouts
Video Picture Format	Relevant only if the video session type is video switching. The video picture format, as follows: **2** - 4CIF **3** - 16CIF **4** - VGA **5** - NTSC **6** - SVGA **7** - XGA **20** - QCIF **21** - CIF **255** - Auto
CIF Frame Rate	Relevant only if the video session type is video switching and the video format is CIF. The CIF picture frame rate, as follows: **22** - 30 pictures per second **23** - 15 pictures per second **24** - 10 pictures per second **25** - 7.5 pictures per second **255** -Auto
QCIF Frame Rate	Relevant only if the video session type is video switching and the Video Format is QCIF. The QCIF picture frame rate, as follows: **22** - 30 pictures per second **23** - 15 pictures per second **24** - 10 pictures per second **25** - 7.5 pictures per second **255** - Auto

Table A-4: Event Fields for Event 1 - Conference Start (Continued)

Field	Description
LSD Rate	The LSD rate, as follows: (The values are identical to those in the H221 table.) **1** - 300 bps **2** - 1200 bps **3** - 4800 bps **4** - 6400 bps **5** - 8000 bps **6** - 9600 bps **7** - 14.4 kbps **8** - 16 kbps **9** - 24 kbps **10** - 32 kbps **11** - 40 kbps **12** - 48 kbps **13** - 56 kbps **14** - 62.4 kbps **15** - 64 kbps **31** - Variable LSD **255** -Opened dynamically
HSD Rate	The HSD rate, as follows: (The values are identical to those in the H221 table.) **Note:** The MCU does not currently support HSD. **1** - variable HSD **17** - 64 kbps **18** - 128 kbps **19** - 192 kbps **20** - 256 kbps **21** - 320 kbps **22** - 384 kbps **23** - 512 kbps **24** - 768 kbps **25** - 1152 kbps **26** - 1536 kbps **255** - Opened dynamically

Table A-4: Event Fields for Event 1 - Conference Start (Continued)

Field	Description
T120 Bit Rate	The T120 bit rate, as follows: **0** - None. T120 was not used in the conference. **2** - H-MLP -62.4 **3** - H-MLP -64 **4** - H-MLP-128 **5** - H-MLP-192 **6** - H-MLP-256 **7** - H-MLP-320 **8** - H-MLP-384 **12** - H-MLP-14.4. k **13** - var-H-MLP **17** - MLP-4K **18** - MLP-6.4 k **19** - var-MLP **20** - MLP-14.4 k **21** - MLP-22.4 k **22** - MLP-30.4 k **23** - MLP-38.4 k **24** - MLP-46.4 k **25** - MLP-16 k **26** - MLP- 24 k **27** - MLP - 32 k **28** - MLP - 40 k **29** - MLP - 62.4 k **30** - MLP - 64 k

Table A-5: Event Fields for Event 2001 - Conference Start Continue 1

Field	Description
Audio Tones	The audio tones that were used in the conference, as follows: Bit **0** on - Entry tone Bit **1** on - Exit tone Bit **2** on - End time alert tone
Alert Tone Timing	Relevant only if the end time alert tone is enabled. Indicates when the end time alert tone is to be played. A value of X indicates that the alert tone is to be played X minutes before the conference end time.
Talk Hold Time	The minimum time that a speaker has to speak to become the video source. The increments are in 0.01 sec. The range is **0** - **10** seconds.
Audio Mix Depth	The maximum number of participants whose audio can be mixed. The range is **1** - **5**.
Operator Conf	Indicates whether or not the conference is an Operator conference, as follows. **0** - The conference is *not* an operator conference. **1** - The conference is an operator conference.
Video Protocol	The video protocol, as follows: **1** - H.261 **2** - H.263 **3** - H.26L **4** - H.264 **255** - Auto
Meet Me Per Conf	Indicates whether the Meet Me Per Conference option is enabled or disabled: **0** - The Meet Me Per Conference option is disabled. **1** - The Meet Me Per Conference option is enabled, and dial-in participants join the conference by dialing the dial-in number.

Table A-5: Event Fields for Event 2001 - Conference Start Continue 1 (Continued)

Field	Description
Number of Network Services	The number of Network Services assigned to the conference. The value can be between 0 to 30.
Network Service Phone Numbers	Relevant only if the Meet Me Per Conference option is enabled. For each Network Service assigned to the conference, there will be 3 or 4 fields, as follows: • The name of the Network Service. • The number of phone numbers defined for the Network Service. (Possible values are 1 or 2.) • The first phone number defined for the Network Service. • The second phone number defined for the Network Service. Applicable only if a second phone number is defined.
Conference Password	The password assigned to the conference. An empty password "" means that no password was assigned to the conference.
Chair Mode	Indicates whether or not chair control is enabled, as follows: **0** - Chair control is disabled. **255** - Chair control is enabled.
Cascade Mode	The cascading mode, as follows: **0** - None **1** - Master **2** - Slave **255** - Auto
Master Name	The name of the participant that acts as the link to the Master conference in a cascading conference.

Table A-5: Event Fields for Event 2001 - Conference Start Continue 1 (Continued)

Field	Description
Number Of Undefined Parties	Relevant only if the Meet Me Per Conference and Auto Add options are enabled. Retrieves the number of undefined participants for which the system reserved resources in a "Meet Me Per Conference" conference. Additional participants may join the conference without prior reservation until all the resources are utilized.
Unlimited Reservation Flag (Auto Add)	Relevant only if the Meet Me Per Conference option is enabled. Indicates whether the Auto Add option is enabled or disabled, as follows: **0** - The Auto Add option is disabled. **1** - The Auto Add option is enabled.
Time Before First Join	Relevant only if the Auto Terminate option is enabled. Indicates the number of minutes that should pass from when the conference has started without any participant connection to the conference, before the conference is considered as idle and is automatically terminated by the MCU.
Time After Last Quit	Relevant only if the Auto Terminate option is enabled. Indicates the number of minutes that should pass after the last participant has disconnected from the conference, before the conference is considered as idle and is automatically terminated by the MCU.
Conference Lock Flag	Indicates whether or not the conference is locked for dial in participants, as follows: **0** - The conference is *not* locked for dial in participants. **1** - The conference is locked for dial in participants.
Max Parties In Conference	The maximum number of participants that can connect to the conference. The default value is **255**. This value indicates that as many participants as the MCU's resources allow can connect to the conference, up to the maximum possible for the type of conference, for example, 30 for a Video Switching conference.

Table A-5: Event Fields for Event 2001 - Conference Start Continue 1 (Continued)

Field	Description
Resource Information	The resources imposed on the MCU to run the conference. For a description of the fields see Table A-9, "Resource Information Fields" on page A-27.
AV Message Information	The AV Message Information fields. For a description of the fields, see Table A-10, "AV Message Information Fields" on page A-27.
Lecture Mode Information	The Lecture Mode Information fields. For a description of the fields seeTable A-11, "Lecture Mode Information Fields" on page A-28.

Table A-6: Event Fields for Event 3001 - Conference Start Continue 2

Field	Description
Web Reserved	Indicates whether or not the reservation was established from the web, as follows: **0** - The reservation was *not* established from the web. **1** - The reservation was established from the web.
Web Reserved User ID	Only relevant for web reservations. The user ID of the person making the reservation, or **0** if the reservation was not established from the web.
Web Reserved Database ID	Only relevant for web reservations. The ID of the database from which the reservation was made, or **0** if the reservation was not established from the web.

Table A-7: Event Fields for Event 4001 - Conference Start Continue 3

Field	Description
Conf Remarks	The remark that was entered in the conference general properties during the reservation stage. Maximum 300 characters. If no remark was entered, this field will be empty.

Table A-8: Event Fields for Event 5001 - Conference Start Continue 4

Field	Description
Numeric ID	The Numeric Conference ID.
Conference Entry Password	The conference entry password.
Chairperson/web Password	The chairperson/web password.
User Defined 1 *User Defined 2* *User Defined 3*	The contents of the User defined fields for the conference. These fields enable operators to enter general information for the conference, such as the company name, and the contact person's name and telephone number. The maximum length of each field is 80 characters.
Billing	The billing code.

Table A-9: Resource Information Fields

Field	Description
Audio Board ID	The slot number of the Audio card handling the participant audio channel, or **65535** if there is no audio resource forcing.
Audio Unit ID	The unit number on the Audio card handling the participant audio channel, or **65535** if there is no audio resource forcing.
Video Board ID	The slot number of the Video card handling the participant video channel, or **65535** if there is no video resource forcing.
Video Unit ID	The unit number on the Video card handling the participant video channel, or **65535** if there is no video resource forcing.
Data Board ID	The slot number of the Data card handling the participant data channel, or **65535** if there is no data resource forcing.
Data Unit ID	The unit number on the Data card handling the participant data channel, or **65535** if there is no data resource forcing.

Table A-10: AV Message Information Fields

Field	Description
Attended-Welcome	The Greet and Guide conference type, as follows: **0** - None (no Greet & Guide) **1** - Welcome (No Wait) **2** - Attended (Wait) **3** - IVR
AV Message Service Name	Relevant only if the Greet and Guide conference type is not **None**. The name of the AV Message Service assigned to the Greet and Guide conference.

Table A-11: Lecture Mode Information Fields

Field	Description
Lecture Mode	Indicates the type of Lecture Mode, as follows: **0** - Lecture Mode is disabled **1** - Lecture Mode is enabled **2** - Lecture Show **3** - Presentation Mode
Lecturer Name	The name of the participant selected as the conference lecturer.
Time Interval	The time interval between participants when automatic switching between participants is enabled.
Timer	Indicates whether automatic switching between participants is enabled or disabled, as follows: **0** - Automatic switching between participants is disabled. **1** - Automatic switching between participants is enabled.
Audio Activated	This function is relevant when the Lecture Mode is enabled and the Lecturer name is set to Auto Select. Indicates if the automatic switching between lecturers is audio activated, as follows: **0** - Automatic switching between lecturers is *not* audio activated. **1** - Automatic switching between lecturers is audio activated.
Lecturer ID	Displays the lecturer ID number. This number is insignificant.

Table A-12: Event Fields for Event 2 - Conference End

Field	Description
Cause	Indicates the reason for the termination of the conference, as follows: **2** - The conference was terminated by an operator. **3** - The conference ended at the scheduled end time. **4** - The conference ended automatically, when all the participants disconnected from the conference. **252** - The conference never started since the scheduled end time was surpassed at startup. **253** - The conference could not become an Ongoing Conference due to a problem. **254** - The conference was ended by an MCU reset. **255** - An unknown error occurred.

Table A-13: Event Fields for Event 3 - Net Channel Connected

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Channel ID	The channel identifier. This is a number assigned to the channel by the system, according to the order in which the channels connect. The initial channel is always **1**.
Channels Number	Relevant only to multiRate calls. The total number of channels being connected for this participant.
Connect Initiator	Indicates who initiated the connection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown

Table A-13: Event Fields for Event 3 - Net Channel Connected (Continued)

Field	Description
Call Type	The call type, as follows: **1** - VOICE_VAL; normal voice call **2** - MODEM_VAL; 3.1 khz audio **4** - 56K_VAL; 56k data call, unknown type **8** - 64K_VAL; 64k data call, unknown type **10** - 64K_REST_VAL; 64k restricted data call **20** - 384K_VAL; 384k data call, unknown type **40** - 384K_REST_VAL; 384k restricted data not supported at PRI **4000** - MULTIRATE_DATA; multirate service data call, unknown type **8000** - 1536K_VAL; 1536k data call, unknown type **10000** - 56K_UNREST; 56k data call, unrestricted **20000** - ALAW_VOICE; Voice call outside of North America, A-law **40000** - ALAW_MODEM; 3.1kHz audio call outside of North America, A-law **400000** - ALAW_VOICE; 3.1kHz audio call outside of North America, A-law
Net Specification	The network service parameters. For more details see the MGC Administrator's Guide, Chapter 3, "Defining Network Services".
PRF Mode	The value of the preferred/exclusive field for B channel selection (the PRF mode), as follows: **0** - None **1** - Preferred **2** - Exclusive For more details refer to the Q.931 standard.

Table A-13: Event Fields for Event 3 - Net Channel Connected (Continued)

Field	Description
Calling Participant Information	The calling participant information. For a description of the fields see Table A-14, "Calling Participant Information Fields (Based on Q.931)" on page A-31.
Called Participant Information	The called participant information. For a description of the fields see Table A-15, "Called Participant Information Fields (Based on Q.931)" on page A-32.

Table A-14: Calling Participant Information Fields (Based on Q.931)

Field	Description
Number Type	The type of calling number, as follows: **0** - Unknown, default **1** - International **2** - National **4** - Subscriber **6** - Abbreviated
Number Plan	The calling number plan, as follows: **0** - Unknown **1** - ISDN, default **2** - Telephony **3** - Private
Presentation Indication	The presentation indicator, as follows: **0** - Presentation allowed, default **1** - Presentation restricted **2** - Number not available **255** - Unknown

Table A-14: Calling Participant Information Fields (Based on Q.931) (Continued)

Field	Description
Screening Indication	The screening indicator, as follows: **0** - User not screened, default **1** - User verification succeeded **2** - User verification failed **3** - Network provided **255** - Unknown
Phone Number	The telephone number used for dial in.

Table A-15: Called Participant Information Fields (Based on Q.931)

Field	Description
Number Type	The type of number called, as follows: **0** - Unknown, default **1** - International **2** - National **4** - Subscriber **6** - Abbreviated
Number Plan	The called number plan, as follows: **0** - Unknown **1** - ISDN, default **2** - Telephony **3** - Private
Phone Number	The telephone number used for dial out.

Table A-16: Event Fields for Event 4 - Net Channel Disconnected

Field	Description
Participant Name	The participant name, as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.
Channel ID	The channel identifier. This is a number assigned to the channel by the system, according to the order in which the channels connect. The initial channel is always **1**.
Disconnect Initiator	Indicates who initiated the disconnection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown
Q.931 Disconnection Cause Structure	The disconnection cause structure. For a description of the fields see Table A-17, "Disconnection Cause Information Fields (Based on Q.931)" on page A-33.

Table A-17: Disconnection Cause Information Fields (Based on Q.931)

Field	Description
Coding Standard	The disconnection cause code standard. For values and explanations, see the Q.931 Standard.
Location	The disconnection cause location. For values and explanations, see the Q.931 Standard.
Cause Value	The disconnection cause value. For values and explanations, see the Q.931 Standard.

Table A-18: Event Fields for Event 5 - Participant Connected

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Participant State	The participant status, as follows: **1** - Connected **8** - Secondary - the participant could not connect the video channels and is connected via audio only
Capabilities	The remote capabilities in H.221 format.
Remote Communication Mode	The remote communication mode in H.221 format.
Secondary Cause	Relevant only if the Participant State is Secondary. The cause for the secondary connection (not being able to connect the video channels), as follows: **1** - Restrict **2** - SM-comp **3** - Bit-rate, for example, when 6B is needed but not supported. **4** - LSD **5** - HSD **6** - MLP **7** - H-MLP **8** - QCIF **9** - Video frame rate **10** - H243 bad behavior **255** - Other

Table A-19: Event Fields for Event 7 - Participant Disconnected

Field	Description
Participant Name	The name of the participant as in the reservation. An empty name "" denotes an unidentified participant or a participant whose name is unspecified.
Participant ID	The identification number assigned to the participant by the MCU.
Disconnect Cause	The disconnection cause, as follows: **0** - Unknown **1** - Participant hung up **2** - Disconnected by the operator **3** - Not in use **4** - The MCU cannot establish the appropriate H.243 connection with the participant **5** - Resources deficiency **6** - Password failure **7** - Bonding failure **8** - No net connection **9** - Net port(s) deficiency **10** - MUX port deficiency **11** - Audio port deficiency **12** - Video port deficiency **13** - Data port deficiency **255** - Other
Q931 Disconnect Cause	If the disconnection cause is "No Net Connection" or "Party Hang Up", then this field indicates the Q931 disconnection cause.

Table A-20: Event Fields for Event 2007 - Participant Disconnected Continue 1

Field	Description
Local Sync Lost Counter	The number of times that the synchronization of the MCU MUX unit was lost.
Remote Sync Lost Counter	The number of times that the synchronization of the participant MUX was lost.
Local Video Sync Lost Counter	The number of times that the synchronization of the MCU Video unit was lost.
Remote Video Sync Lost Counter	The number of times that the synchronization of the participant Video was lost.
Mux Board Number	The slot number of the MUX card handling the participant call.
Mux Unit Number	The number of the unit on the MUX card handling the participant call.
Audio Codec Board Number	The slot number of the Audio card handling the participant call.
Audiocodec Unit Number	The number of the unit on the Audio card handling the participant call.
Audio Bridge Board Number	The slot number of the Audio card on which the audio bridge handling the participant call is installed.
Audio Bridge Unit Number	The number of the unit on the Audio card acting as the Audio Bridge.
Video Board Number	The slot number of the Video card handling the participant call.
Video Unit Number	The number of the unit on the Video card handling the participant call.
T.120 Board Number	The slot number of the Data card handling the participant call.
T.120 Unit Number	The number of the unit on the Data card handling the participant call.

Table A-20: Event Fields for Event 2007 - Participant Disconnected Continue 1 (Continued)

Field	Description
T.120 Mcs Board Number	The slot number of the Data card containing the T.120 bridge handling the participant call.
T.120 Mcs Unit Number	The number of the unit on theT.120 bridge handling the participant call.
H.323 Board Number	The slot number of the H.323 card handling the participant call.
H323 Unit Number	The number of the unit on the H.323 card handling the participant call.

Table A-21: Event Fields for Event 8 - Remote Communication Mode

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Remote Communication Mode	The remote communication mode in H.221 format.

Table A-22: Event Fields for Event 9 - Participant Errors Summary

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.

Table A-22: Event Fields for Event 9 - Participant Errors Summary (Continued)

Field	Description
Resource Failure	Indicates whether or not a resource failure occurred, as follows: **0** - No resource failure occurred **1** - A resource failed
Number of H.221 Sync Loss	The number of times the synchronization was lost by the MCU. Value range 0-255.
Duration of .H221 Sync Loss	The overall duration in seconds that the synchronization was lost by the MCU.
Number of H.221 R-Sync Loss	The number of times the synchronization was lost by the remote endpoint. Value range 0-255.
Duration of H.221 R-Sync Loss	The overall duration in seconds that the synchronization was lost by the remote endpoint.
Number of Remote VCU	The number of fast updates.

Table A-23: Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant

Field	Description
Operator Name	The login name of the operator.
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Connection Type	The connection type, as follows: **0** - Dial-out **5** - Dial-in **6** - Direct

Table A-23: Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant (Continued)

Field	Description
Bonding Mode 1	Indicates whether bonding is enabled or disabled. Bonding is a communication protocol that aggregates from two up to thirty 64 Kbps B channels together, to look like one large bandwidth channel. Possible values are: **0** - Bonding is disabled **1** - Bonding is enabled **255** - Auto
Net Number Of Channels	The number of channels, as follows: **255** - Auto Otherwise, in range of **1** - **30**
Net Channel Width	The band width of each channel. This value is always **0**, which represents a band width of **1B**, which is the only band width that is currently supported.
Net Service Name	The Network Service as defined in the system. An empty string "" indicates the default network service.
Restrict	Indicates whether or not the line is restricted, as follows: **27** - Restricted line **28** - Non restricted line **255** - Unknown or unimportant
Voice	Indicates whether the line is a voice or a video line, as follows: **0** - The line is a data line (Video & Data) **1** - The line is a voice line (Audio Only) **255** - Unknown

Table A-23: Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant (Continued)

Field	Description
Num-Type	Relevant for dial-out only. The type of telephone number, as follows: **0** - Unknown **1** - International **2** - National **3** - Network specific **4** - Subscriber **6** - Abbreviated **255** - Taken from Network Service, default
Net Sub-Service Name	Relevant for dial-out only. An empty string “” means that MCU selects the default sub-service.
Number of Participant Phone Numbers	The number of participant phone numbers. In a dial-in connection, the participant phone number is the CLI (Calling Line Identification) as identified by the MCU. In a dial-out connection, participant phone numbers are the phone numbers dialed by the MCU for each participant channel.
Number of MCU Phone Numbers	The number of MCU phone numbers. In a dial-in connection, the MCU phone number is the number dialed by the participant to connect to the MCU. In a dial-out connection, the MCU phone number is the MCU (CLI) number as seen by the participant. The MCU phone numbers are entered in the MCU Number field in the Network Service.
Participant and MCU Phone Numbers	One or more fields, one field for each participant and MCU phone number. The participant phone numbers are listed first, followed by the MCU phone numbers.

Table A-23: Event Fields for Events 10, 101, 105 - Reserved Participant, Operator Add Participant, Operator Update Participant (Continued)

Field	Description
Identification Method	Relevant for dial-in only. The identification method, as follows: **0** - Password **1** - Called phone number **2** - Calling phone number
Meet-Me Method	Relevant for dial-in only. The meet-me per method, as follows: **1** - Meet-me per MCU-Conference **3** - Meet-me per participant **4** - Meet-me per channel

Table A-24: Event Fields for Events 2010, 2101, 2105 - Reserved Participant Continue 1, Operator Add Participant Continue 1, Operator Update Participant Continue 1

Field	Description
Interface Type	The type of interface between the participant and the MCU, as follows: **0** - ISDN **1** - ATM **2** - H.323 **3** - MPI
H.243 Password	The H.243 password, or an empty string if there is no password.
Chair	Not in use. Always contains the value **0**.
Video Protocol	The video protocol used by the participant, as follows: **1** - H.261 only **2** - H.263 **3** - H.26L **4** - H.264 **255** - Auto

Table A-24: Event Fields for Events 2010, 2101, 2105 - Reserved Participant Continue 1, Operator Add Participant Continue 1, Operator Update Participant Continue 1 (Continued)

Field	Description
Audio Volume	The broadcasting volume assigned to the participant. The value is between **1** (lowest) and **10** (loudest). The default value of the broadcasting volume upon participant connection is **5**. Each unit movement increases or decreases the volume by **3 MHz**.
Undefined Type	Not supported. The default value **0** is always returned.
Node Type	The node type, as follows: **0** - MCU **1** - Terminal
Bonding Phone Number	The phone number for Bonding dial-out calls. Bonding is a communication protocol that aggregates from two up to thirty 64 Kbps B channels together, to look like one large bandwidth channel.
Video Rate	Relevant only to H.323 participants. The video rate in units of bits per second. A value of **294967295** denotes auto, and in this case, the rate is computed by the MCU.
IP Address	Relevant only for an H.323 participant. The IP address of the H.323 participant. An address of **4294967295** indicates that no IP address was specified for the participant, and the gatekeeper is used for routing. In all other cases the address overrides the gatekeeper.
Call Signaling Port	Relevant only for an H.323 participant. The signaling port. A value of **65535** is ignored by MCU.

Table A-24: Event Fields for Events 2010, 2101, 2105 - Reserved Participant Continue 1, Operator Add Participant Continue 1, Operator Update Participant Continue 1 (Continued)

Field	Description
H.323 Participant Alias Type	The alias type, as follows: **8** - H.323 ID alias type **7** - E164 alias type **11** - URL ID alias type **12** - Transport ID alias type **13** - Email ID alias type **14** - Participant number alias type
H.323 Participant Alias Name	The H.323 participant alias. The alias may contain up to 512 characters.

Table A-25: Event Fields for Event 11 - ATM Channel Connected

Field	Description
Participant Name	The name of the participant as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.
Channel ID	The channel identifier. This is a number assigned to the channel by the system, according to the order in which the systems connect. The initial channel is always 1.
Channels Number	Relevant only to multiRate calls. The total number of channels being connected for this participant.
Connect Initiator	Indicates who initiated the connection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown

Table A-25: Event Fields for Event 11 - ATM Channel Connected (Continued)

Field	Description
Restrict	Indicates whether or not the line is restricted, as follows: **0** - Non restricted line **1** - Restricted line
ATM Address	The ATM address.

Table A-26: Event Fields for Event 12 - ATM Channel Disconnected

Field	Description
Participant Name	The name of the participant as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.
Channel ID	The channel identifier. This is a number assigned to the channel by the system, according to the order in which the channels connect. The initial channel is always **1**.
Disconnect Initiator	Indicates who initiated the disconnection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown
Q.931 Disconnection Cause Structure	The disconnection cause structure. See Table A-17, “Disconnection Cause Information Fields (Based on Q.931)” on page A-33.

Table A-27: Event Fields for Event 13 - MPI Channel Connected

Field	Description
Participant Name	The name of the participant as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.

Table A-27: Event Fields for Event 13 - MPI Channel Connected (Continued)

Field	Description
Channel ID	The channel identifier. This is a number assigned to the channel by the system, according to the order in which the systems connect. The initial channel is always 1.
Connect Initiator	Indicates who initiated the connection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown
Restrict	Indicates whether or not the line is restricted, as follows: **0** - Non restricted line **1** - Restricted line
Called Participant Information	The called participant information. For a description of the fields see Table A-15, "Called Participant Information Fields (Based on Q.931)" on page A-32.

Table A-28: Event Fields for Event 14 - MPI Channel Disconnected

Field	Description
Participant Name	The name of the participant as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.
Channel ID	The channel identifier. This is a number assigned to the channel by the system, according to the order in which the channels connect. The initial channel is always **1**.
Disconnect Initiator	Indicates who initiated the disconnection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown

Table A-29: Event Fields for Events 15, 24 - H.323 Call Setup, SIP Call Setup

Field	Description
Participant Name	The name of the participant as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.
Connect Initiator	Indicates who initiated the connection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown
Min Rate	The minimum line rate used by the participant. Value range **0 - 1920000**.
Max Rate	The maximum line rate achieved by the participant. Value range **0 - 1920000**.
Source Participant Address	The IP address of the calling participant. A string of up to 255 characters.
Destination Participant Address	The IP address of the called participant. A string of up to 255 characters.
Endpoint Type	The endpoint type, as follows: **0** - Terminal **1** - Gateway **2** - MCU **3** - Gatekeeper **4** - Undefined

Table A-30: Event Fields for Events 16, 25 - H.323 Clear Indication, SIP Clear Indication

Field	Description
Participant Name	The name of the participant as in the reservation.
Participant ID	The identification number assigned to the participant by the MCU.
Disconnect initiator	Indicates who initiated the disconnection, as follows: **0** - MCU **1** - Remote participant **Any other number** - Unknown

Table A-31: Event Fields for Events 17, 23 - H.323 Participant Connected, SIP Participant Connected

Field	Description
Participant Name	The name of the participant as in the reservation. An empty name "" denotes an unidentified participant or a participant whose name is unspecified.
Participant ID	The identification number assigned to the participant by the MCU.

Table A-31: Event Fields for Events 17, 23 - H.323 Participant Connected, SIP Participant Connected (Continued)

Field	Description
Participant State	The participant status, as follows: **1** - Connected **2 -** Disconnected **3** - Waiting for dial-in **4** - Connecting **5** - Disconnecting **6 -** Partially connected - the participant has completed H.221 capability exchange **7 -** Deleted by operator and his/her resources are released **8** - Secondary - the participant could not connect the video channels and is connected via audio only **9** - Stand-by - waiting for trigger by operator **10** - Connected with problems
Capabilities H.323 participant	list [byte] The remote capabilities in H.245 format. An empty list means that capabilities are unavailable.
Remote Communication Mode H.323 Participant	The remote communication mode in H.245 format.

Table A-31: Event Fields for Events 17, 23 - H.323 Participant Connected, SIP Participant Connected (Continued)

Field	Description
Secondary Cause	Relevant only if the Participant State is Secondary. The cause for the secondary connection (not being able to connect the video channels), as follows: **1** - Restrict **2** - SM-comp **3** - Bit-rate, for example when 6B is needed but not supported **4** - LSD **5** - HSD **6** - MLP **7** - H-MLP **8** - QCIF **9** - Video frame rate **10** - H.243 bad behavior **255** - Other

Table A-32: Event Fields for Event 18 - New Undefined Participant

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Connection Type	The connection type, as follows: **0** - Dial-out **5** - Dial-in **6** - Direct

Table A-32: Event Fields for Event 18 - New Undefined Participant (Continued)

Field	Description
Bonding Mode 1	Indicates whether bonding is enabled or disabled. Bonding is a communication protocol that aggregates from two up to thirty 64 Kbps B channels together, to look like one large bandwidth channel. Possible values are: **0** - Bonding is disabled **1** - Bonding is enabled **255** - Auto
Net Number Of Channels	The number of channels, as follows: **255** - Auto Otherwise, in range of **1** - **30**
Net Channel Width	The band width of each channel. This value is always **0**, which represents a band width of **1B**, which is the only band width that is currently supported.
Net Service Name	The Network Service as defined in the system. An empty string “” indicates the default network service.
Restrict	Indicates whether or not the line is restricted, as follows: **27** - Restricted line **28** - Non restricted line **255** - Unknown or unimportant.
Voice	Indicates whether the line is a voice or a video line, as follows: **0** - The line is a data line (Video & Data) **1** - The line is a voice line (Audio Only) **255** - Unknown
Number Type	Relevant for dial-out only. The type of telephone number, as follows: **0** - Unknown **1** - International **2** - National **3** - Network specific **4** - Subscriber **6** - Abbreviated **255** - Taken from Network Service, default

Table A-32: Event Fields for Event 18 - New Undefined Participant (Continued)

Field	Description
Net Sub-Service Name	Relevant for dial-out only. The Network sub-service. An empty string "" means that MCU selects the default sub-service.
Number of Participant Phone Numbers	The number of participant phone numbers. The participant phone number is the CLI (Calling Line Identification) as identified by the MCU.
Number of MCU Phone Numbers	The number of MCU phone numbers. The MCU phone number is the number dialed by the participant to connect to the MCU.
Participant and MCU Phone Numbers	One or more fields, one field for each participant and MCU phone number. The participant phone numbers are listed first, followed by the MCU phone numbers.
Identification Method	Relevant for dial-in only. The identification method, as follows: **0** - Password **1** - Called phone number **2** - Calling phone number
Meet-Me Method	Relevant for dial-in only. The meet-me per method, as follows: **1** - Meet-me per MCU-Conference **3** - Meet-me per participant **4** - Meet-me per channel
Net Interface Type	The type of interface between the participant and the MCU, as follows: **0** - ISDN **1** - ATM **2** - H.323 **3** - MPI
H.243 Password	The H.243 password, or an empty string if there is no password.

Table A-32: Event Fields for Event 18 - New Undefined Participant (Continued)

Field	Description
Chair	Not in use. Always contains the value **0**.
Video Protocol	The video protocol used by the participant, as follows: **1** - H.261 only **2** - H.263 **3** - H.26L **255** - Auto
Audio Volume	The broadcasting volume assigned to the participant. The value is between **1** (lowest) and **10** (loudest). The default value of the broadcasting volume upon participant connection is **5**. Each unit movement increases or decreases the volume by **3 MHz**.
Undefined Type	The undefined type: **0** - Default **1** - Undefined participant **2** - Unreserved participant
Node Type	The node type, as follows: **0** - MCU **1** - Terminal
Bonding Phone Number	The phone number for Bonding dial-out calls. Bonding is a communication protocol that aggregates from two up to thirty 64 Kbps B channels together, to look like one large bandwidth channel.
Video Rate	Relevant only to H.323 participants. The video rate in units of bits per second. A value of **294967295** denotes auto, and in this case, the rate is computed by the MCU.
IP Address	Relevant only for an H.323 participant. The IP address of the H.323 participant. An address of **4294967295** indicates that no IP address was specified for the participant, and the gatekeeper is used for routing. In all other cases the address overrides the gatekeeper.

Table A-32: Event Fields for Event 18 - New Undefined Participant (Continued)

Field	Description
Call Signaling Port	Relevant only for an H.323 participant. The signaling port. A value of **65535** is ignored by MCU.
H.323 Participant Alias Type	The alias type, as follows: **8** - H.323 ID alias type **7** - E.164 alias type **11** - URL ID alias type **12** - Transport ID alias type **13** - Email ID alias type **14** - Participant number alias type
H.323 Participant Alias Name	The H.323 participant alias. The alias may contain up to 512 characters.

Table A-33: Event Fields for Event 20 - Participant Add Billing Code

Field	Description
Participant Name	The name of the participant who added the billing code.
Participant ID	The identification number, as assigned by the MCU, of the participant who added the billing code.
Billing Data	The numeric billing code that was added (32 characters).

Table A-34: Event Fields for Event 21 - Set Participant Visual Name

Field	Description
Participant Name	The original name of the participant, for example, the name automatically assigned to an undefined participant, such as, “undefined participant_(000)”.
Participant ID	The identification number assigned to the participant by the MCU.
Visual Name	The new name assigned to the participant by the operator (81 characters).

Table A-35: Event Fields for Event 22 - DTMF Code Failure

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Wrong Dtmf Code	The incorrect DTMF code entered by the participant, or NULL if the participant did not press a key.
Right Data	The correct DTMF code, if known.
Failure State	The type of DTMF failure, as follows: **2** - The participant failed to enter the correct conference password. **6** - The participant failed to enter the correct chairperson password. **12** - The participant failed to enter the correct Conference Numeric ID for the destination conference.

Table A-36: Event Fields for Event 26 - Recording Link Event

Field	Description
Participant name	The name of the Recording Link participant.
Participant ID	The Recording Link participant's identification number as assigned by the system.
Operation Type	The type of recording operation, as follows: **0** - Recording started **1** - Recording stopped **2** - Recording paused **3** - Recording resumed **4** - Recording ended **5** - Recording failed
Operation Initiator	This field is not currently used. The default value of **0** is always returned.
Recording Link Name	The name of the Recording Link.
Recording Link ID	The Recording Link ID.
Start Recording Policy	The start recording policy, as follows: **1** - Start recording automatically as soon as the first participant connects to the conference. **2** - Start recording when requested by the conference chairperson via DTMF codes or the WebCommander Web site, or when the operator starts recording from the MGC Manager or WebCommander applications.

Table A-37: Event Fields for Event 27 - Recording System Link Event

Field	Description
Participant Name	The name of the participant. (The participant represents an On Going recording or an On Going playback.)
Participant ID	The participant's identification number as assigned by the system.
Operation Type	The type of playback or recording operation, as follows: **21** - Start playback **22** - Pause playback **23** - Resume playback **24** - End playback **25** - Skip forwards **26** - Skip backwards **27** - Skip to end **28** - Restart playback **51** - Start recording **52** - Pause recording **53** - Resume recording **54** - End recording
Participant Type	The type of participant, as follows: **1** - On Going recording **2** - On Going playback
User Account	The user's PIN code.
Failure	Indicates whether the recording or playback operation succeeded or failed, as follows: **0** - Operation succeeded **1** - Operation failed
Failure Code	The error code, or **0** if no error occurred.

Table A-38: Event Fields for Event 28 - SIP Private Extensions

Field	Description
Participant Name	The name of the participant.
Participant ID	The participant's identification number as assigned by the system.
Called Participant ID	The called participant ID.
Asserted Identity	The identity of the user sending a SIP message as it was verified by authentication.
Charging Vector	A collection of charging information.
Preferred Identity	The identity the user sending the SIP message wishes to be used for the P-Asserted-Header field that the trusted element will insert.

Table A-39: Event Fields for Event 100 - Operator Terminate Conference

Field	Description
Operator Name	The login name of the operator who terminated the conference.

Table A-40: Event Fields for Events 102,103, 104 - Operator Delete Participant, Operator Disconnect Participant, Operator Reconnect Participant

Field	Description
Operator Name	The login name of the operator who reconnected the participant to the conference, or disconnected or deleted the participant from the conference.
Participant Name	The name of the participant reconnected to the conference, or disconnected or deleted from the conference.
Participant ID	The identification number assigned to the participant by the MCU.

Table A-41: Event Fields for Event 106 - Operator Set End Time

Field	Description
New End Time	The new conference end time set by the operator, in GMT time.
Operator Name	The login name of the operator who changed the conference end time.

Table A-42: Event Fields for Events 107, 109 - Operator Move Participant from Conference, *Operator Attend Participant*

Field	Description
Operator Name	The login name of the operator moving the participant.
Participant Name	The name of the participant being moved by the operator.

Table A-42: Event Fields for Events 107, 109 - Operator Move Participant from Conference, Operator Attend Participant (Continued)

Field	Description
Participant ID	The identification number, as assigned by the MCU, of the participant being moved.
Destination Conference Name	The name of the conference to which the participant is being moved.
Destination Conference ID	The identification number of the conference, as assigned by the MCU, to which the participant is being moved.

Table A-43: Event Fields for Events 108, 112 - Operator Move Participant to Conference, Attend Participant to *Operator Conference*

Field	Description
Operator Name	The name of the operator moving the participant to the conference.
Source Conference Name	The name of the source conference.
Source Conference ID	The identification number of the source conference as assigned by the MCU.
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Connection Type	The connection type, as follows: **0** - Dial-out **5** - Dial-in **6** - Direct

Table A-43: Event Fields for Events 108, 112 - Operator Move Participant to Conference, *Attend Participant* to *Operator Conference (Continued)*

Field	Description
Bonding Mode	Indicates whether bonding is enabled or disabled. Bonding is a communication protocol that aggregates from two up to thirty 64 Kbps B channels together, to look like one large bandwidth channel. Possible values are: **0** - Bonding is disabled **1** - Bonding is enabled **255** - Auto
Net Number Of Channels	The number of channels, as follows: **255** - Auto Otherwise, in range of **1** - **30**
Net Channel Width	The band width of each channel. This value is always **0**, which represents a band width of **1B**, which is the only band width that is currently supported.
Net Service Name	The Network Service as defined in the system. An empty string “” indicates the default network service.
Restrict	Indicates whether or not the line is restricted, as follows: **27** - Restricted line **28** - Non restricted line **255** - Unknown or unimportant
Voice	Indicates whether the line is a voice or a video line, as follows: **0** - The line is a data line (Video & Data) **1** - The line is a voice line (Audio Only) **255** - Unknown

Table A-43: Event Fields for Events 108, 112 - Operator Move Participant to Conference, *Attend Participant* to *Operator Conference (Continued)*

Field	Description
Number Type	Relevant for dial-out participants. The type of telephone number, as follows: **0** - Unknown **1** - International **2** - National **3** - Network specific **4** - Subscriber **6** - Abbreviated **255** - Taken from Network Service, default
Net Sub-Service Name	Relevant for dial-out only. The network sub-service name. An empty string "" means that MCU selects the default sub-service.
Number of Participant Phone Numbers	The number of participant phone numbers. In a dial-in connection, the participant phone number is the CLI (Calling Line Identification) as identified by the MCU. In a dial-out connection, participant phone numbers are the phone numbers dialed by the MCU for each participant channel.
Number of MCU Phone Numbers	The number of MCU phone numbers. In a dial-in connection, the MCU phone number is the number dialed by the participant to connect to the MCU. In a dial-out connection, the MCU phone number is the MCU (CLI) number as seen by the participant. The MCU phone numbers are entered in the MCU Number field in the Network Service.
Participant and MCU Phone Numbers	One or more fields, one field for each participant and MCU phone number. The participant phone numbers are listed first, followed by the MCU phone numbers.

Table A-43: Event Fields for Events 108, 112 - Operator Move Participant to Conference, *Attend Participant* to *Operator Conference (Continued)*

Field	Description
Identification Method	Relevant for dial-in only. The identification method, as follows: **0** - Password **1** - Called phone number **2** - Calling phone number
Meet-Me Method	Relevant for dial-in only. The meet-me per method, as follows: **1** - Meet-me per MCU-Conference **3** - Meet-me per participant **4** - Meet-me per channel
Net Interface Type	The type of interface between the participant and the MCU, as follows: **0** - ISDN **1** - ATM **2** - H.323 **3** - MPI
H243 Password	The H.243 password, or an empty string if there is no password.
Chair	Not in use. Always contains the value **0**.
Video Protocol	The video protocol used by the participant, as follows: **1** - H.261 only **2** - H.263 **3** - H.26L **255** - Auto
Audio Volume	The broadcasting volume assigned to the participant. The value is between **1** (lowest) and **10** (loudest). The default value of the broadcasting volume upon participant connection is **5**. Each unit movement increases or decreases the volume by **3 MHz**.

Table A-43: Event Fields for Events 108, 112 - Operator Move Participant to Conference, *Attend Participant* to *Operator Conference (Continued)*

Field	Description
Undefined Type	The undefined type: **0** - Default **1** - Undefined participant **2** - Unreserved participant
Node Type	The node type, as follows: **0** - MCU **1** - Terminal
Bonding Phone Number	The phone number for Bonding dial-out calls. Bonding is a communication protocol that aggregates from two up to thirty 64 Kbps B channels together, to look like one large bandwidth channel.
Video Rate	Relevant only to H.323 participants. The video rate in units of bits per second. A value of **294967295** denotes auto, and in this case, the rate is computed by the MCU.
IP Address	Relevant only for an H.323 participant. The IP address of the H.323 participant. An address of **4294967295** indicates that no IP address was specified for the participant, and the gatekeeper is used for routing. In all other cases the address overrides the gatekeeper.
Call Signaling Port	Relevant only for an H.323 participant. The signaling port. A value of **65535** is ignored by MCU.
H.323 Participant Alias Type	The alias type, as follows: **8** - H.323 ID alias type **7** - E.164 alias type **11** - URL ID alias type **12** - Transport ID alias type **13** - Email ID alias type **14** - Participant number alias type
H.323 Participant Alias Name	The H.323 participant alias. The alias may contain up to 512 characters.

Table A-44: Event Fields for Event 2108 - Operator Move Participant to Conference Continue 1

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Participant Calling Number	The telephone number used by the participant for dial-in.

Table A-45: Event Fields for Event 3108 - Operator Move Participant to Conference Continue 2

Field	Description
Participant Name	The name of the participant.
Participant ID	The identification number assigned to the participant by the MCU.
Participant Called Number	The telephone number used by the MCU for dial-out.

Table A-46: Event Fields for Events 110, 111 - Operator On Hold Participant, Operator Back to Conference Participant

Field	Description
Operator Name	The name of the operator moving the participant back to the conference, or putting the participant on hold.
Participant Name	The name of the participant being moved or put on hold.
Participant ID	The identification number, as assigned by the MCU, of the participant being moved or put on hold.

Table A-47: Attended Participant Information Fields

Field	Description
Operator Participant	Indicates whether the participant is an operator, as follows: **0** - No **1 -** Yes
Ordinary Participant State	Relevant only if Operator Participant = no. The participant status, as follows: **1** - Welcome queue without waiting for the operator **2** - Welcome queue and waiting for the operator **3** - Participant on-hold **4** - Attended by operator **255** - None of the above
Attending	Relevant only if Operator Participant = yes. Indicates whether the operator is participating in an Operator conference, as follows: **0** - No **1** - Yes
Guest	Relevant only if Operator Participant = yes. Indicates whether the operator is attending a regular conference as a guest, as follows: **0** - No **1** - Yes

Table A-48: Event Fields for Event 113 - Conference Remarks

Field	Description
Conf Remarks	A remark that was entered by the operator in the conference general properties, while the conference was ongoing. Maximum 300 characters. The remark is preceded by the operator name followed by a colon (:).

Table A-49: Event Fields for Event 3010 - User Defined Information

Field	Description
User Defined 1 *User Defined 2* *User Defined 3* *User Defined 4*	The contents of the User defined fields for a participant. These fields enable operators to enter general information about the participant, such as the participant's e-mail address. The maximum length of each field is 80 characters.
VIP	Indicates whether the participant is a VIP participant or a standard participant, as follows: **0** - The participant is a standard participant. **1** - The participant is a VIP participant.